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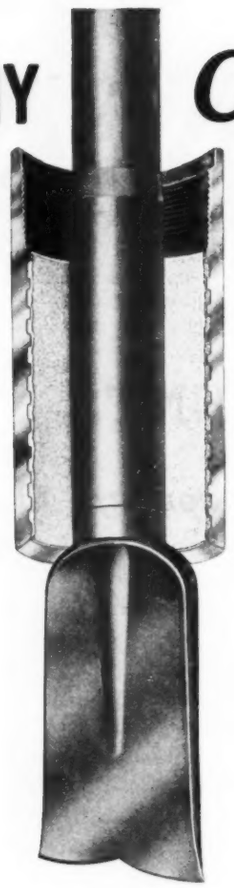

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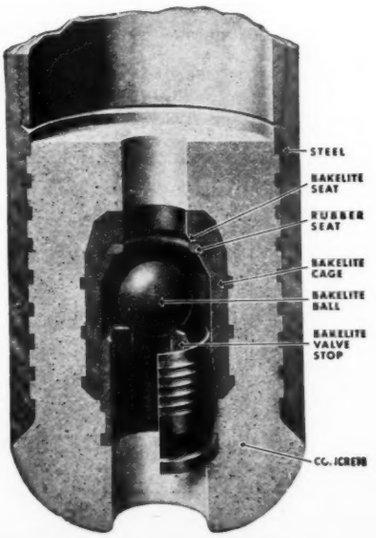

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Output of Crude Is at New High Record

CRUDE output climbed to a new all-time record last week, when the daily average in the United States totaled 3,087,885 barrels, a gain of 8,011 barrels over the week before. No one area was responsible for the high figure. Some fields recorded declines, but the increases at scattered points were large enough to overcome them. In the meantime the whole question of crude requirements and their equitable apportionment among the oil-producing states is receiving thoughtful consideration of the industry's leaders and of government agencies.

The action of the Texas Railroad Commission last week, when it upset forecasts by fixing its daily allowable production for the state below the level recommended by the Bureau of Mines, instead of 300,000 barrels higher as asked by purchasing companies, has imparted fresh interest and importance to this problem of allocation, for it is contended that by thus complying with the bureau's recommendation Texas producers must surrender some of their markets to others who ignore the bureau's advisory figures.

Heavy withdrawal of crude from storage is reported, notably in the Mid-Continent territory, where Oklahoma and Kansas have reduced their stocks approximately 10,000,000 barrels in the last ten months. Some Texas companies assert they will face a difficult situation in November in that curtailment of production ordered by the railroad commission will leave them unable to meet their own refining requirements. Some of them already had been buying crude from other producers, but under the November allocations these other producers will have no crude to spare, thus making it necessary to establish sources of supply in Coastal Louisiana.

Production 3,087,885

Increase 8,011

An important body of opinion holds that withdrawals from known reserves are exceeding the additions to reserves effected through discovery of new fields. Continuation of this process, it is pointed out, would increase the value of crude in tanks and create correspondingly higher prices for it.

Evidence points clearly to likelihood that the demand for heating oils in the 1936-37 season will outstrip that of last year, when the clamor for shipments became so insistent that refiners not only exhausted their light-distillate stocks but their kerosene stocks too.

In the producing division interest turned to a well in the Crescent pool in Logan County, Oklahoma, which started off at an indicated daily production of 53,000 barrels of oil and 74,000,000 feet of gas. A discovery in the Woodbine sand, apparently good for 250 barrels, revived interest in the old Irma field in Arkansas. Fifty-eight wells in the Rodessa field, 49 of them on the Louisiana side, are reported to be showing water. No new pools were opened.

Daily Average Production for Week

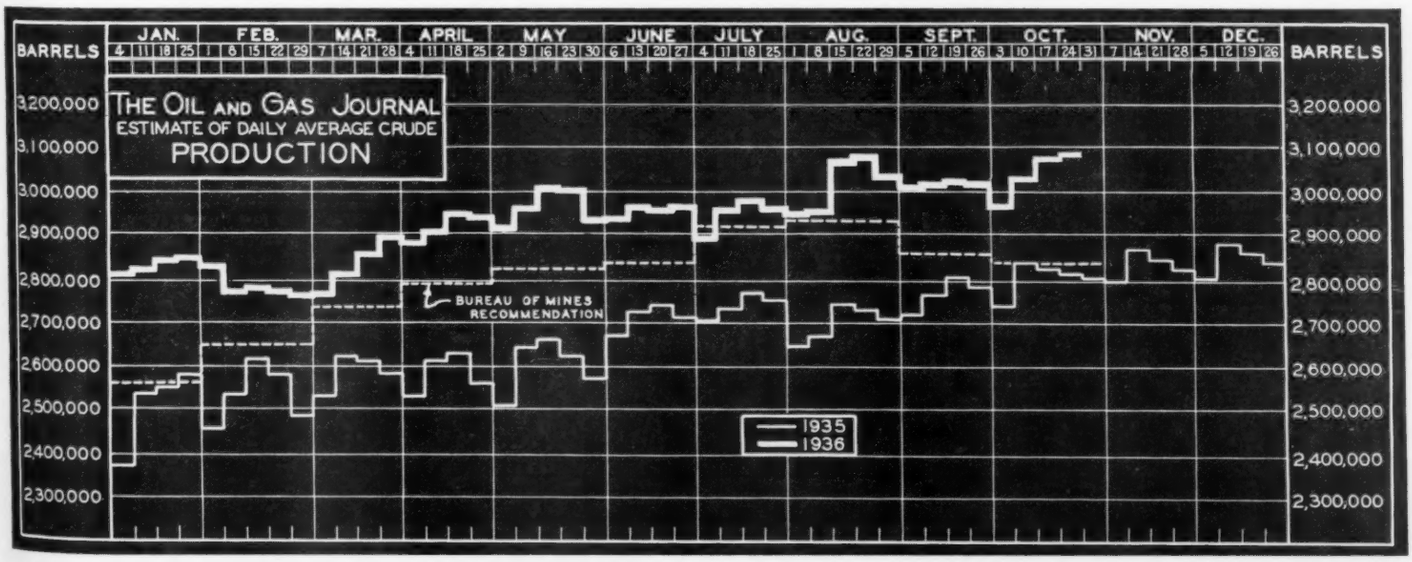
	Oct. 24, 1936	Bur.Mines Oct. est.	Oct. state allowable	Oct. 17, 1936
Oklahoma City	151,200	.....	.....	153,775
Seminole-St. Louis	96,350	.....	.....	95,050
Remainder of State	338,875	.....	.....	337,900
Total Oklahoma	586,425	559,900	559,900	586,725
East Texas	446,587	.....	.....	449,850
West Texas	178,847	.....	.....	178,200
North Central Texas	86,197	.....	.....	89,876
Texas Panhandle	64,850	.....	.....	58,047
East Central Texas	71,549	.....	.....	70,143
Gulf Coast—Texas	265,996	.....	.....	264,344
Southwest Texas	85,796	.....	.....	86,946
Total State of Texas	1,199,822	1,106,900	1,179,948	1,197,406
North Louisiana	76,125	.....	.....	76,150
Gulf Coast—Louisiana	157,550	.....	.....	156,748
Total Louisiana	233,675	189,300	235,200	232,898
Santa Fe Springs	43,900	.....	.....	44,800
Long Beach	65,400	.....	.....	65,600
Kettleman Hills	79,300	.....	.....	78,200
Remainder of State	395,900	.....	.....	397,000
Total California	584,500	535,300	*544,000	585,600
Kansas	168,575	155,000	155,000	165,400
Arkansas	28,160	29,600	.....	28,130
Eastern Fields	114,200	106,300	.....	113,000
Michigan	30,448	30,000	.....	30,335
Southeastern New Mexico	77,970	73,100	81,555	77,070
Rocky Mountain area	64,110	56,900	.....	63,310
Total United States	3,087,885	2,842,300	.....	3,079,874

*Recommendation of Central Committee of California Oil Producers.

Crude Oil Stocks in United States

(BUREAU OF MINES ESTIMATE)

Week ending October 10, 1936	292,701,000
Week ending October 3, 1936	294,349,000
Week ending October 12, 1935	319,421,000



SPARKS FROM THE NEWS

Rugged Individualism

No state seems to be willing to assume the role of the "lone wolf" in the matter of production allowables with so many other wolves around.

New Cars

When the new automobiles were introduced a year ago fuel economy was stressed by every manufacturer. More cars were bought and more gasoline was consumed.

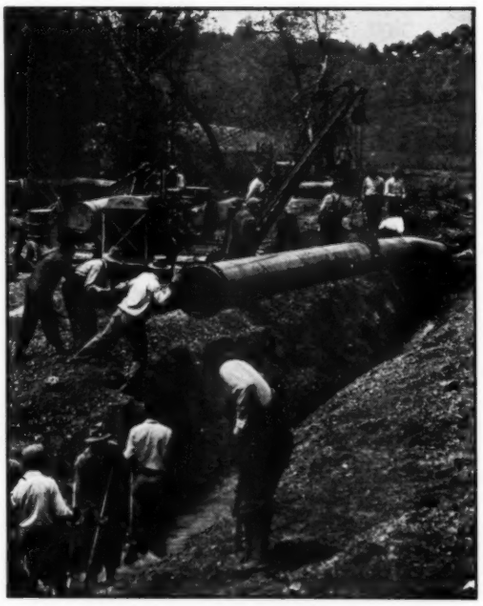
Foreign Cars

The first of 10,000 small foreign-made automobiles to be shipped to the United States within the year arrived this week. A day's production for one of our manufacturers.

Holding Own

Despite the insistent marketing efforts of the oil, coal and electric industries, gas appliance sales now come very close to equaling the banner year 1929.

SAFETY FIRST ON PIPE LINE



Observe the two men hanging to the third lowering a 6,000-pound pipe

Hard-boiled?

Within one week mosquitos ran three drilling crews off one wildcat well located on the Gulf Coast.

Salesmen Wanted

Some companies are finding it more difficult to dispose of the water produced from their wells than the oil.

New Peaks

The consumption of furnace oil and diesel oil will reach new highs this winter.

Conviction

Try to hire a seismograph crew if you don't think oil companies are looking for oil.

Universal Use

Scattered reports from all parts of the world show that increased demand for petroleum is not confined to the United States.

Alcoholism

An advocate of alcohol-gasoline motor fuels says the alcohol industry has operated in this country for thirty years but doesn't know what its product has cost to manufacture.

Mobile

The refining industry can now move pretty much as it pleases. Its plants wear out about every ten to fifteen years and its network of pipe lines over the country enables it to locate most anywhere.

Eyes Left

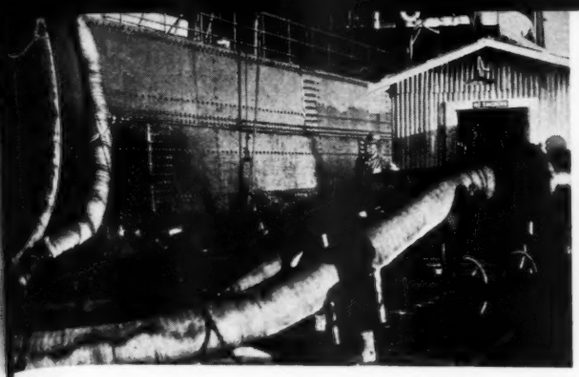
The oil industry is watchfully awaiting the results of tests being quietly drilled along the coasts of Florida and Mississippi.

Jumping the Gun

Some want to quit now that crude stocks have been reduced from 450,000,000 barrels to 290,000,000 barrels even though 200,000,000 barrels has been recognized as the economic maximum. A good sign but a bad idea.

B-r-r-r-

This winter more alcohol will be made from petroleum gases to be used as anti-freeze than from all other sources. That will be the oil industry's answer to the advocates of power alcohol if they push alcohol-gasoline blends.



Tanker shipments from the Gulf Coast are increasing

Texas Cut Is Puzzling to Oil Industry

By **NEIL WILLIAMS**

HOUSTON, Tex., Oct. 26.—Taken completely by surprise by the Railroad Commission's sudden action last week in ordering a reduction in the basic oil allowable for November in line with the Bureau of Mines estimates of market demand, the oil industry of Texas has spent a confused week trying to figure what it all is about. So open and positive was the commission's independence in disregarding the Bureau of Mines in setting the October basic allowables some 73,000 bbls. above the estimates for this month, a reversal of this stand without warning is something Texas producers are having a little difficulty in digesting.

Up to the time the November allowables were announced on October 20, no one apparently had any intimation that the commission would not follow along the path it had vigorously started to hew. Even at the statewide hearing, which preceded by a day the announcement, the impression was generally received that the commission was still of the same opinion it had before that the Bureau of Mines estimates greatly underrated the market requirements for Texas oil, and it was repeatedly stated that, if it could be shown there is a demand for Texas oil, Texas producers would be permitted to produce it if such production would not create a physical waste or take an already existent Texas market.

DEFINITE MARKET

It seemed to be clearly indicated there is a definite market for every drop of oil Texas is producing. Nominations of buyers which are supposed to reflect actual requirements, sworn to under oath, aggregated some 1,407,726 bbls. daily for November. It is conceded there are some duplications in the nominations and some overambitious estimates which are not intended on the part of the buyers and which cannot be avoided, but, assuming that these total 200,000 bbls., which would be high, the actual requirements for Texas oil during November would be in the neighborhood of 1,200,000 bbls. daily.

The basic allowable for October, effective October 1, was 1,179,948 bbls. With the addition of new wells, this allowable was increased 26,096 bbls. to 1,206,044 bbls. on October 18, the latest available figure. As this quantity of oil was being absorbed readily by the market without any increase in storage, a decrease in stocks of 1,648,000 bbls. for the week October 3-10 having been reported by the Bureau of Mines, it was generally assumed that Texas had not been overproducing even at the October 18 production figure, which was 99,144 bbls. over the Bureau of Mines estimate for October.

For November the basic allowable as set by the commission in its back tracking move to follow the Bureau of Mines estimate is 1,109,260 bbls. This is 70,688 bbls. under the basic allowable of October 1, a decrease of 96,784 bbls. from the production of October 18, and 298,466 bbls. under the nominated amount of oil needed daily during November.

With the first shock of the surprise reduction over, Texas producers now are trying to reason sanely what motivated the commission, for it is recognized that if the commission had grounds for disregarding the Bureau of Mines in the determination of its October allowables, it had the same grounds for following similarly with the November allowables. In cooperation with the commission in trying to uphold the market structure, most producers and students of the situation are doing their best to reconcile the ordered reduction in production as being for the best interests of the Texas oil industry.

AN ILLUSTRATION

The situation, they say, is like a child with castor oil. The child may detest castor oil and may not know what it is for or why it is necessary to take it, but nevertheless castor oil probably is what the child needs.

At the same time Texas producers can't help wondering what they are going to do for oil in November. If there was a definite market for 1,206,044 bbls. on October 18, which it has been said the industry was absorbing without increasing stocks, and there is an indicated market requirement of 1,407,726 bbls., based on nominations of buyers, how can they get by producing 1,109,260 bbls., the basic allowable they ask.

NEED OIL

Several major companies, names of which cannot be mentioned, state they will be placed in an extremely embarrassing position in November to meet their own actual refining requirements. Their own production has been curtailed for some time below their needs, and now they are unable to find sufficient crude to buy. They reveal that since the announcement of November production reductions they have been attempting to establish sources of supply and make contracts with producers in Coastal Louisiana.

It is known that production in Louisiana has been increasing rapidly under the encouragement of high allowables offered by that state. This also is known to have resulted in substantial additions to stocks in that state. Consequently, buyers of Texas crude may be able to meet some of their requirements from that state. The only fly in the ointment is that with increased demand for Louisiana coastal crude, incentive might be given

An 18,000-ton tanker taking on oil at Port Ingleside, Texas

for further leniency in production there and encourage additional development and opening of more potential reserves. To Texas producers this is a matter of giving Texas markets to another state unnecessarily.

Most Texas producers, however, are easing their minds on the assumption this curtailment of production as ordered by the commission for November will be only temporary. It is general opinion that the cut was ordered as a matter of expediency. This was indicated in a statement by Col E. O. Thompson, chairman of the commission, following announcement of the cut, in which he pointed out that "there have been times when it is strategically wise to retreat." While so far no definite commitment has been made by the commission, it is known that Oklahoma operators had in mind demanding an increase in their allowables of 50,000 bbls. if Texas made further increases, and it is possible the commission had in mind forestalling this until it is a little surer of its grounds. It is certain the commission has no intention of letting production get so out of bounds that the price structure will be endangered.

At the same time, the Bureau of Mines has been making a detailed survey of oil in storage and testing samples of oil from each of the tanks. This is a move which Colonel Thompson has been advocating as it has been his opinion that much of the oil which has been reported in storage for some time and which has been held as a threat over the head of the industry, no longer is suitable as a supply of raw material for gasoline due to loss of the lighter ends, and should be discounted as available oil. As the bureau is following out the ideas of Colonel Thompson in this and attempting to ascertain actual conditions, it is possible the commission is ready to play along with the Bureau of Mines in its estimates for the time.

LONG RANGE FORECAST

The commission also has been attempting to get concessions from the Bureau of Mines in the way of making long range forecasts of market demand for oil and refined products. It is estimated the bureau will attempt such forecasts when the December estimates are made known. The bureau also has made some concessions to the Railroad Commission in acceding to demands in the matter of striking from government allocations all withdrawals from storage. Thus a display of cooperation with the bureau while efforts are being made to ascertain actual conditions might be a matter of expediency.

Unless there are some developments along these lines, Texas producers generally do not feel that the curtailment in production which has been ordered will continue longer than November at the most. Some look for an earlier revision in the basic allowable. At least it is anticipated a number of exceptions in the way of increased allowables for individual fields may be granted soon after the new allowables as ordered go into effect. At the statewide hearing October 19 operators in a number of fields showed an actual market for more oil than they were permitted to produce and asked increased allowables. They were assured the increases would be granted but in the allowables announced each of these fields was cut. However, when the actual proof of the additional demand from each of these fields is presented the commission later, the increases no doubt will be given.

Even without these, substantial increases in the basic allowable as ordered can be expected during the month. This comes with the completion of additional wells. The basic allowable October 1 was 1,179,948 bbls., but on October 18 with the completion of 487 new wells from October 1 to 18, the allowable had increased 26,096 bbls. to 1,206,044 bbls. At that rate the allowable at the end of October will be at least 50,000 bbls. greater than it was on October 1. In the same manner, the basic allowable set for November is only a starter and if the daily increase is as much as it has been this month, total production at the end of November will be around 1,160,000 bbls.

While it is conceded that it might not be best for the state to continue production around its present figure long, that is, at the rate of 1,206,044 bbls., the allowable October 18, conservative market students believe there is a definite current demand for at least 1,175,000 bbls. daily, which is some 60,000 bbls. above the basic allowable of November set by the commission. Unless such a production is permitted, they state, a withdrawal from Texas storage of around 75,000 bbls. daily can be expected during that month, and in view of the fact that stocks are believed already under the minimum economic limit, some buyers who have been filling their crude requirements in Texas are going to have to look to other states for their supply.

ALLOWABLE PRODUCTION FOR TEXAS BY DISTRICTS—1936

	Barrels	
	Nov. 1	Oct. 1
Panhandle	59,335	61,710
North Texas	60,336	62,380
West Central	54,745	56,397
East Central	45,554	55,405
Southwest Texas	162,171	169,529
Gulf Coast	145,617	175,073
East Texas	439,392	436,700
Rodessa	15,374	11,700
Total	1,109,260	1,179,948

SUMMARY, TEXAS STATE ALLOWABLE OCTOBER 19, 1936

District—	Allowable per order effective November 1	Increase or decrease from October 1	
1	23,848	209	Inc.
2	40,343	3,066	Dec.
3	145,617	29,456	Dec.
4	97,980	4,501	Dec.
5	31,671	8,802	Dec.
6	13,883	1,049	Dec.
Rodessa	15,374	3,674	Inc.
East Texas	439,392	2,692	Inc.
7	36,335	1,681	Dec.
7-C	18,410	29	Inc.
8	126,736	24,318	Dec.
9	60,336	2,044	Dec.
10	59,335	2,375	Dec.
Total	1,109,260	70,688	

Some of the fields in the state were not affected and others only slightly so by the decrease in allowables. The hardest hit district was the upper Gulf Coast, which was cut to 145,617 bbls., or 29,456 bbls. per day below its allowable as fixed October 1. The Rodessa field in Cass County is given a 3,674-bbl.-per-day increase and East Texas is benefited by 2,692 bbls. per day. Certain fields in the West Texas area are cut a total of 24,318 bbls. in their allowable.

The following lists the more important changes in allowables in production in November as announced by the Railroad Commission:

	Nov. daily allowable	Increase or decrease, bbls.	
Central Texas—			
Fisher	3,783	580	Dec.
Jones	4,309	559	Dec.
Shackelford	7,665	134	Dec.
Young (S. half)	4,641	134	Dec.
Jack (S. half)	2,681	116	Dec.
West Texas—			
Upton (McCamey)	8,986	249	Inc.
Cowden, North	5,203	1,139	Dec.
Gulf McElroy	2,150	2,247	Dec.
Howard-Glasscock	16,244	1,697	Dec.
Iatan-E. Howard	6,416	1,228	Dec.
Penwell	5,291	569	Dec.
Sayre	5,442	701	Dec.
Ward, North	5,112	3,248	Dec.
Ward, South	12,593	753	Dec.
Yates	24,614	5,389	Dec.
Keyes	1,925	803	Dec.
Keystone	826	613	Dec.
East Texas—			
East Texas	439,392	2,692	Inc.
Talco	5,924	244	Dec.
Cayuga	5,200	292	Dec.
Rodessa	15,374	3,674	Inc.
Van	26,478	8,932	Dec.
Southwest Texas—			
Darst Creek	7,069	198	Dec.
Luling-Branyon	5,994	102	Inc.
Salt Flat	4,282	383	Inc.
Government Wells, North	10,584	874	Inc.
Government Wells, South	4,896	32	Dec.
Loma Novia	14,522	385	Dec.
Lopez	5,135	385	Inc.
Plymouth	8,920	1,210	Dec.
Corpus Christi	8,000	735	Dec.
Samfordyce	3,931	1,163	Dec.
Saxet	5,192	888	Dec.
Saxet, old	1,789	235	Dec.
Saxet, new deep	3,403	653	Dec.
Saxet, new shallow	3,920	74	Dec.
Saxet, Frio sand	7,242	1,065	Dec.
Gulf Coast—			
Anahuac	7,088	668	Dec.
Barbers Hill	10,094	2,916	Dec.
Conroe	34,389	5,588	Dec.
Goose Creek	2,279	349	Dec.
High Island	3,353	2,180	Dec.
Hastings	5,786	2,730	Dec.
Hull, old	2,899	407	Dec.
Hull, new	2,065	154	Dec.
Humble	3,084	237	Dec.
Livingston	2,973	146	Dec.
Manvel, Miocene	3,673	482	Dec.
Manvel, Oligocene	3,376	384	Dec.
Pickett Ridge	1,534	930	Dec.
Port Neches	1,016	372	Dec.
Raccoon Bend	4,980	517	Dec.
South Houston	3,611	1,638	Dec.
Sugarland	2,600	1,343	Dec.
Spindletop	2,133	137	Dec.
Thompson	7,532	1,959	Dec.
Tomball	7,101	389	Dec.
West Columbia	2,015	292	Dec.

High Octane Tractor Fuels Discussed Before Refiners

FORT WORTH, Tex., Oct. 27.—High-octane gasolines will replace cheaper, high-endpoint, low-octane petroleum fractions as tractor fuels, according to C. G. Krieger, of Ethyl Gasoline Corp., who spoke here today before plant superintendents and engineers representing refining companies operating units in the North Texas and southern Oklahoma areas, one of four meetings sponsored by the manufacturing committee of the Western Petroleum Refiners Association. Mr. Krieger said:

"The tractor industry is moving forward at a rapid pace. Power farming is still in its infancy and the farm tractor is the foundation upon which power farming is built. In the newer models of tractors you see streamlining, self-starters, variable speed governors, rubber tires, lights, radios, cabs, higher speeds for both field work and road work, and smaller high-compression engines more powerful yet more economical than their larger predecessors. In many cases these new gasoline-burning, rubber-tired tractors, used in connection with a rubber-tired trailer, will take the place of a motor truck."

The economy of equipping tractors with motors capable of getting full benefits from high-octane fuels was based upon field demonstrations conducted in California and Kansas recently, as well as laboratory research.

Three others papers of practical value were presented. Emby Kaye, vice president of Skelly Oil Co., and chairman of the meeting, was forced to half the discussions because of time limitations. The paper on "Corrosion in Heat Exchanger and Condenser Tubes" was presented by N. W. Mitchell of the Chase Brass & Copper Co. Because refiners purchase up to $1,000,000 worth of exchanger and condenser tubing annually, its correct choice from a metallurgical standpoint is apparent. Mr. Mitchell offered a summary after inspecting tube performance in a number of Mid-Continent refineries. Extracts from his paper will be found elsewhere in this issue.

Dr. G. S. Eisele of the Pure Oil Co. presented a paper on "Inhibitors in Motor Fuels," emphasizing the savings to the refiner who studies the nature of his particular gasoline and chooses the proper kind and amount of inhibitor rather than carry out the usual chemical treatment. The basis for the saving comes in conservation of octane value and the need for a lesser quantity of lead to bring the gasoline back to the original octane value.

A background for evaluating laboratory testing methods and interpreting their results was offered by R. W. Provine of the Mid-Continent Petroleum Corp.

Plans Are Being Completed for I.P.A.A. Annual Meeting

H. B. Fell, executive vice president of the Independent Petroleum Association of America, announces that the program for the annual meeting to be held at the Biltmore Hotel in Oklahoma City on Monday, November 30, and Tuesday, December 1, 1936, are being rapidly completed.

Chairmen of committees follow: Activities committee, H. M. Stalcup, Skelly Oil Co., Tulsa; budget and finance committee, N. T. Gilbert, Turman Oil Co., Tulsa; committee on constitution and by-laws, Marvin Lee, Wichita, Kans.; committee on credentials, rules and order of business, Bryan W. Payne, Iowa-Payne Oil Co., Tyler, Tex.; membership committee, Ralph T. Zook, Sloan & Zook, Inc., Bradford,, Pa.; nominating committee, John B. Cowden, Clark & Cowden Drilling Co., Dallas, Tex.; public relations committee, H. G. Hunt, Michigan Oil & Gas Association, Mount Pleasant, Mich.; resolutions committee, J. Steve Anderson, Anderson-Prichard Oil Corp., Oklahoma City.

Increase Tanker Space

HOUSTON, Tex., Oct. 26.—Work has been started by Shell Petroleum Corp. at its refinery in Deer Park, near Houston, Tex., on a project which includes lengthening of the slip 600 feet and construction of docks to accommodate another tanker.

Kansas Potentials Soar; Oil Strikes in Farflung Areas

By DAL DALRYMPLE

"Wildcat Opens New Pool in Kansas." "Gusher Extends Production in Sunflower Field."

Such captions over oil-news stories from Kansas caused comment back in 1933. Today they are more or less hackneyed heads, wornout from overuse. Three years ago, discovery of new pools or gusher production in proven areas was unusual enough to cause excitement. Now such strikes are of common occurrence, scarcely a week passing without a new area being opened or older fields extended by big wells.

In evidence are the 36 wildcat wells which have been officially completed so far this year as openers of oil or gas producing areas, while several others have shown as pool openers since the first week in October. On top of that, extensions of such fields a Silica, Burrton, Hauschild, Bloomer, Lerado, Wellington, Trapp, Gorham, Bemis and others have been so numerous as to become routine. These 1936 discoveries, following the magnificent record of 1935, have sent the Kansas total potential to above 1,300,000 bbls. daily for new all-time highs that have been increased in each of the last three months.

GROWTH OF POTENTIAL

Back in October, 1933, the state potential for Kansas was a mere 213,696 bbls. daily.

The total grew slowly during 1934, speeded up in 1935 and soared to the October, 1936, total of 1,311,777 bbls. daily—and the end is not yet.

An amazing record and one to be proud of, but Kansas oil men say there is a fly in the ointment. Kansas, they insist, has not been done right by in the matter of allowable production. They cite these figures:

When the state potential was 213,696 bbls. daily in October, 1933, the U. S. Bureau of Mines allocation was 116,000 bbls. daily and the percentage relationship of allocation to potential was 54.28 per cent.

As the potential increased, the percentage of allocation shrunk to nearly one-fifth of that of three years ago. Thus we see that, although the October, 1936, potential was 1,311,777 bbls., the Bureau of Mines allocation for the month was only 155,000 bbls. daily, which gave a percentage relationship of allocation to potential of only 11.82 per cent. Then a few days ago came the November allocation of 154,500 bbls., a cut of 500 bbls. under October. And that was but adding insult to injury, the Kansas oil men insist.

The accompanying table depicts how, while Kansas' potential has been soaring month by month in the last three years, its allowable has failed to keep anything like a proportionate pace.

KANSAS PRODUCTION AND ALLOWABLES

	State potential	Bureau of Mines allocation	Per cent 500-550 well classification	Percentage relationship allocation to potential
1933—				
Oct.	213,696	116,000	24.75	54.28
Nov.	287,175	116,000	.....	40.39
Dec.	288,957	112,000	17.94	38.76
1934—				
Jan.	314,600	110,000	16.40	34.97
Feb.	309,157	112,766	18.34	35.84
Mar.	330,412	112,300	22.90	33.99
Apr.	345,247	122,866	23.19	35.59
May	365,745	122,100	21.25	33.38
June	299,607	130,300	24.95	43.49
July	323,069	134,500	24.19	41.63
Aug.	344,970	131,200	21.24	38.03
Sept.	367,877	120,700	17.75	32.81
Oct.	342,208	125,200	19.12	36.58
Nov.	332,611	125,000	19.26	37.58
Dec.	368,038	123,900	18.42	33.67
1935—				
Jan.	397,938	141,695	23.35	35.61
Feb.	429,652	138,600	24.47	32.26
Mar.	472,438	139,700	21.94	29.57
Apr.	469,308	141,000	20.54	30.04
May	482,243	148,400	21.70	30.77
June	507,633	154,300	21.13	30.40
July	485,254	155,600	21.88	32.07
Aug.	494,423	155,300	17.50	31.41
Sept.	536,456	151,900	16.52	28.32
Oct.	675,287	146,100	15.45	21.64
Nov.	765,855	143,300	14.70	18.71
Dec.	838,005	138,700	13.72	16.55
1936—				
Jan.	838,005	138,700	13.72	16.55
Feb.	957,504	137,400	12.67	14.35
Mar.	998,142	142,000	12.80	14.23
Apr.	977,864	150,000	13.28	15.34
May	996,970	150,100	12.14	15.06
June	1,034,717	153,100	10.80	17.80
July	1,020,798	164,200	11.15	16.09
Aug.	1,088,295	166,500	11.79	15.30
Sept.	1,167,835	160,000	10.84	13.70
Oct.	1,311,777	155,000	9.82	11.82

Such a condition is but the natural result of conservation and proration, and is common to other oil-producing states as well as Kansas, it might be said. That may be true to some extent, the Kansans agree, yet they insist their state has suffered more than any of the other major states in the matter of proration. They cite their method of taking potentials.

POTENTIAL SCHEDULES

"Our potentials give a truer gauge of the actual worth of an oil well than those of any other state," one leading oil man of the Sunflower state said. "Potentials for wells of 100 bbls. daily or less are based on actual production tests of 48 hours, with potential being retaken every six months. On wells with daily production of 100 bbls. or more, 24-hour tests are taken where pipe lines can handle the output, with potentials being retaken every four months. Every new well is retested in 60 days, and every acidized well is classed as a new well. If a pool or a well shows a decline and cannot make its potential, it is cut down to the actual runs, if necessary. About 100 wells are plugged every month. It is our contention that this method of taking potentials gives a far more accurate gauge of a well's ability to produce than where wells are closed in prior to testing, and then are opened for only a few minutes or for one, two or three-hour flows. In Kansas, producing wells actually make their potentials, and the 24-hour totals are rarely based on short-time flows."

FIRM DEMAND

It has been said that the Kansas allowable has been down because of lack of market and inadequate connections. Pipe lines have been extended to such an extent the past year that now practically all the important producing areas, except such outlying pools as Shallow Water, have connections.

"We now have a firm demand for from 12,000 to 15,000 bbls. daily more than the Bureau of Mines estimate," a Wichita oil man said.

Whatever the attitude in Texas, Oklahoma, Louisiana, California—Kansas operators think they have been unduly punished in the debatable matter of allocations.

While the percentage relationship of allocation to potential for the entire state is 11.82, the percentage for some of the newer fields is much less than that. The Lerado pool of southwestern Reno County has the strictest proration of any of the Kansas areas. It had seven producers with a daily

potential of 57,961 bbls. in October, but the percentage of allowable was only 1.72.

STRICTLY PRORATED

The sensational Hauschild field of Rice County fared little better. Its 16 producers had an October potential of 96,447 bbls. daily, with an allowable of only 2.03 per cent. The Bloomer pool of Barton County had 16 wells, daily potential of 29,689 bbls. and percentage allowable of 4.38; Geneseo, Rice County, had 20 wells, daily potential of 31,849 bbls. and percentage allowable of 4.87; the big Silica field of Rice and Barton counties, with 148 wells and a daily potential of 223,438 bbls., had a percentage allowable of 5.05, and other newer areas were held to similar low percentages.

The oil picture changes rapidly in Kansas, due in part to new discoveries and in part to the rapid decline of production in some areas, as well as to other factors. For a considerable period Burrton, in Reno County, has been the biggest producing area in the state, but a few weeks ago it was passed by the Silica pool in Rice and Barton counties and since then the lead has wavered between the two fields. Silica held the lead in the week ending October 21, with 13,925 bbls. daily production against 13,300 bbls. daily for Burrton. Burrton had its heyday largely in 1935, while Silica has zoomed to the fore this year and still is going places.

These figures show how Silica has advanced in the last 10 months. On January 1 there were 40 wells in the pool, then known as Steckel, with a potential of 52,496 bbls. daily, a percentage allowable of 7.95 and a daily average production for the week ending last December 28 of 5,000 bbls. Despite the fact that its percentage of allowable has been reduced from 7.95 to 5.05, daily production has increased from 5,000 bbls. to 13,925 bbls.

OXFORD DECLINES

On the other side of the picture, the decline of the once great Oxford pool of Sumner County has been a feature of 1936. In the latter part of 1935 big production was found at Oxford by deepening old Stalnaker sand producers to the Dolomite, and for a time wells with initial production ranging from 20,000 to 50,000 bbls. daily were being completed. Oxford was in its greatest stride at the turn of the year, but its decline has been even more rapid than its ascent. These Oxford figures, based on Kansas Corporation Commission records, tell the sad story:

	No. wells	Potential (bbls.)	Per cent allowed	Allowable (bbls.)
January	25	275,117	2.47	193,227
March	35	367,509	2.35	260,257
October	38	14,174	12.64	51,914

The Oxford story, apparently, has been told. The greater story of Kansas petroleum, however, is only beginning. At least that is what Kansas oil men say, and they point to this year's record of achievement and the plans for 1937.

Certainly there has been a great increase in activity. From January 1 to September 15, 1936, there were 1,172 wells completed in Kansas. The total completions in 1935 was only 892.

The 1936 completions to date included 163 wildcats, with 36 of that number opening new oil or gas areas. The discoveries, by counties, were:

Pratt County—Skelly Oil Co. and others No. 1 Gilchrist, section 7-28-11w; Siliceous lime; 14,941,000 feet of gas; completed in January.

Haskell—Helmerich & Payne No. 1 Elliott, section 30-29-33w; Permian; 2,412,000 feet of gas; completed in January. Kuhn Brothers No. 1 Nilson, section 21-28-32w; Permian; 2,000,000 feet of gas; completed in August.

Russell—R. C. Tarrant No. 1 Williamson, section 9-14-14w; Wabaunsee sand; potential after acid, 243 bbls. of oil; completed in February. Central Petroleum Co. No. 1 Benso, section 9-14-15w; Oswald lime; potential, 292 bbls; February. Hartman & Blair and others No. 1 Boxberger, section 32-13-14w; Kansas City lime; potential after acid, 545 bbls.; March. Coralena Oil Co. No. 1 Trapp, section 30-15-13w; Siliceous lime; potential after acid, 1,231 bbls.; March. Murphy and others No. 1 Anschutz, section 10-15-13w; Siliceous; potential after acid, 515 bbls.; April. Darby Petroleum Corp. and Continental Oil Co. No. 1 Letsch, section 34-14-13w; Kansas City; initial production after acid, 419 bbls.; June. Lario Oil & Gas Co. and others No. 1 Steinert, section 21-15-15w; Kansas City; initial production after acid, 729 bbls. of oil and 20 per cent water; August.

BLOOMER POOL OPENED

Barton—Yarnell, Carlson & Spencer No. 1 Bloomer, section 36-17-11w; Siliceous; initial production, 470 bbls.; completed in February, but later deepened and reacidized. Simpson & Noble and Atlantic Refining Co. No. 1 Hiss, section 31-20-13w; Kansas City-Lansing lime; initial production after acid, 969 bbls.; May. Schermerhorn Oil Co. No. 1 Hunter, section 29-18-15w; Reagan sand; 39,000,000 feet of gas; July. Rose Spring Drilling Co. and others No. 1 Rick, section 1-19-11w; Siliceous; initial production after acid, 937 bbls.; August.

—E. C. Jacobson, Maps, Tulsa.

Russell and Barton County producing areas

Rooks—Gillespie & Son No. 1 Low, section 12-6-18w; Kansas City; potential, 306 bbls.; March.

Stafford—L. A. Farris and others No. 1 Snyder, section 3-21-11w; Kansas City; potential after acid, 390 bbls.; April.

Harvey—Western Kansas Oil & Refining Co. No. 1 Warkentine, section 1-23-2w; Chat; initial production, 569 bbls.; April.

Trego—Continental Oil Co. No. 1 Holcomb, section 26-11-23w; Oswald lime; initial production, 616 bbls.; April.

Ellis—Lario Oil & Gas Co. and others No. 1 Walter, section 2-12-18w; Topeka lime; initial production, 1,159 bbls.; May. Harris & Haun and others No. 1 Schmeidler, section 3-13-17w; initial production after acid, 676 bbls.; June. Twin Drilling Co. and others No. 1 Copeland, section 26-14-19w; conglomerate; initial production, 410 bbls.; June. Jones Brothers and others No. 1 Solomon, section 28-11-19w; Siliceous lime; initial production, 600 bbls.; July. Bridgeport Machine Co. and others No. 1 Madden, section 26-15-18w; Kansas City; initial production after acid, 400 bbls.; July. Vickers Petroleum Co. No. 1 Kraus, section 22-14-19w; Reagan sand; initial production, 259 bbls.; September. Kansas Development Co. No. 1 Haller, section 10-11-18w; Topeka lime; initial production after acid, 531 bbls. of oil, 2 per cent water; October. Bradley Oil Co. and others No. 1 Penny-Wann, section 13-15-20w; Reagan sand; initial production, 420 bbls.; October.

Finney—Lone Star State Drilling Co. No. 1 Hamlin, section 31-24-34w; Permian; 750,000 feet of gas; June.

Rice—Shell Petroleum Corp. and others No. 1 Hafermann, section 6-19-9w; Siliceous; initial production, 1,719 bbls.; July. R. W. Day No. 1 Mason, section 28-21-7w; Chat; initial production, 135 bbls.; July. Simpson & Noble No. 1 Bowman, section 22-19-10w; Siliceous; initial production after acid, 58 bbls. of oil and 10 bbls. of water; July. L. E. Douglass and others No. 1 Hauschild, section 15-21-7w; conglomerate; initial production, 1,280 bbls.; May. Atlantic Refining Co. and others No. 1 Pulliam, section 35-19-8w; Siliceous; estimated 70,000,000 feet of gas; August. Hartman & Blair and others No. 1 Schartz, section 33-19-10w; Siliceous; initial production, 557 bbls.; August.

A McPHERSON STRIKE

McPherson—Empire Oil & Refining Co. No. 1 Cunningham, section 26-18-1w; Chat; initial production after acid, 830 bbls.; July.

Ness—Continental Oil Co. No. 1 Thompson, section 13-18-26w; Siliceous; initial production after acid, 684 bbls.; September.

Pawnee—Simpson Oil Co. and others No. 1 Gates, section 13-20-16w; initial production after acid, 257 bbls.; September.

Those are the only wildcat discoveries that have been finally completed. There are several others that are showing as producers, and it is possible that by the end of 1936 the total number of discoveries for the year will approach the half-hundred mark.

Today Kansas has production in 49 of its 105 counties. It has more than 19,000 producing wells, and total production since the Neodesha strike has been 806,500,000 bbls. It has a proved production area of 459,420 acres, with known petroleum reserves of 400,000,000 bbls. Producers and royalty owners have received $1,239,460,000 from Kansas oil. The state has 29 refineries with daily capacity of 188,000 bbls. The refineries paid approximately $56,431,000 for crude in 1935. Total mileage of trunk pipe lines carrying crude oil to refineries is 4,176. There is sufficient natural gas in reserve to supply the state for 400 years at present consumption rate, it is estimated. Pipe lines totaling 6,700 miles transport the gas from fields to city gates, such distant cities as Minneapolis, St. Paul, Chicago and Detroit using Kansas gas. The average annual gas production from 3,900 wells in 39 counties is 41,500,000,000 feet.

BUSY PROGRAM AHEAD

Where does Kansas go from here, speaking in terms of petroleum?

In the patois of the era, Kansas oil men will go places and do things in 1937. The next year will see the greatest drilling campaign in the history of the state, surpassing the record-breaking achievements of the current year, unless all signs fail.

Perhaps the present demand for crude may not require an augmented program of exploration, but there are other conditions that will force increased drilling. Foremost is the condition of many leases. Numerous oil wells will have to be drilled in 1937 and 1938 for lease protection. There are a great number of leases that were taken for long periods back in 1928-29, and they are due to expire within the next two years. These long-term leases, largely concentrated in such mid-western counties as Reno, Rice, Russell, Ellsworth, Barton, Ellis, Stafford, McPherson, Rush, Trego, Ness, Rooks, Harvey and Pawnee, are too valuable to lose.

The new activity will not be confined to the central counties mentioned. The southern tier of counties, from Cowley westward to Morton, is due for increased exploration, even though deeper drilling is required in some of these counties than elsewhere in the state. The northern counties, along the Barton arch and the Nebraska line, will share in the 1937 program. Even in the old eastern counties, where water-flooding projects are getting under way or are planned, there will be considerable drilling; and by July, 1937, there will be an active campaign in the far western counties, clear to the Colorado line—unless Kansas oil observers, overcome with optimism, are speaking out of turn.

Manufacture of Oil Burners Attracting Refining Industry

By H. STANLEY NORMAN

NEW YORK, Oct. 27.—Pressure from a multitude of angles in the highly competitive winter fuel oil market is gradually forcing large refining companies nearer and nearer the burner manufacturing business. A few oil companies have been directly or indirectly engaged in the oil burner manufacturing business for years, others have entered it recently and the remainder are giving the problem serious consideration.

This trend in fuel oil marketing, forced on the refining industry by gradual extension of free service warranty periods, is receiving close attention.

The connection between burner manufacturing by refining companies is brought into prospective only through analysis of trends in the free service baiting among the fuel dealers and burner salesmen. Free service warranty periods among burner manufacturers and their dealers now range from 90 days to a year, with one company offering an unconditional parts guarantee for five years.

That fuel oil business along the north Atlantic Coast, Middle West and the Pacific Northwest districts justifies the thought and study now accorded it by refining companies is clearly indicated in this winter's prospects. Along the northern Atlantic Coast alone refining companies studying statistics on burner installations anticipate consumption will increase no less than 8,000,000 bbls. over the 1935-36 season when it reached record proportions.

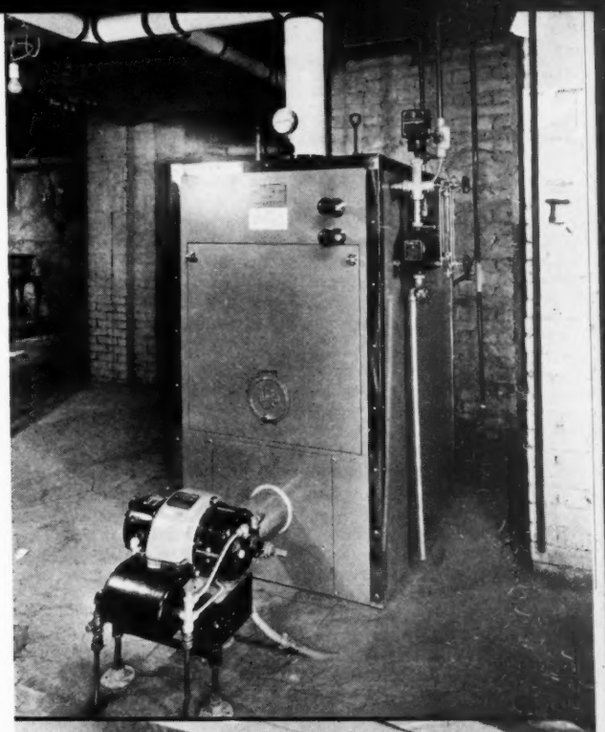
FREE SERVICE

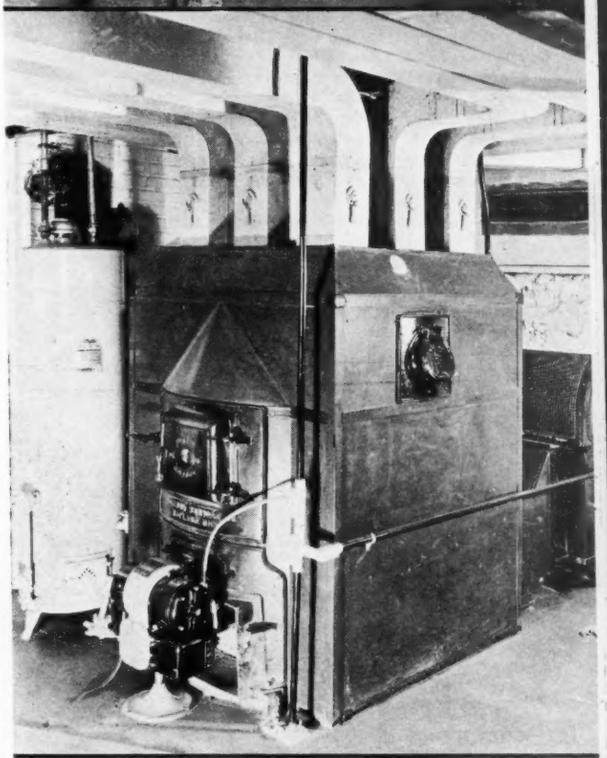
The cycle of free burner service is a vicious one in which oil companies are finding themselves caught as innocent victims of circumstances. First, the burner manufacturers are offering limited periods of free service to sell the customer. Next, the independent or small company dealers are offering free service to expand their business volume. At the end of the swing the oil companies are found forced to defray part of the service cost to protect their dealers and to make certain that burners are properly constructed and adjusted to burn the fuel supplied to the best satisfaction of the customer.

Irrespective of weather conditions encountered this winter, fuel oil consumption is assured of reaching another record. During the first eight months of 1936 there were 100,673 new oil burners shipped by a heavy percentage of the manufacturers reporting to the department of commerce. The first eight months' total averaged 12,584 new burners per month and did not include September and October, the two largest sale months in 1935. The total of 100,673 new units sent into distribution channels through August of 1936 compares with 68,955 for the same period in 1935.

With this increased field of consumers to serve this year and in the early months of next year, oil company sales, refining and administration departments are doing their utmost to participate in the volume and profits of the fuel oil business. Even greater gains in oil burner home heating installations are on the program of manufacturers, pointing to a gradually expanding demand for fuel oil.

One of the country's leading burner manufacturers is beginning to think and speak in terms of electrical refrigeration users in gauging the potential field for heating unit installations. However, the natural restrictions on fuel oil heating are recognized in that the demand is negligible outside of industrial plants in the southern part of the country. In this connection, however, it is pointed out by fuel oil salesmen that greater demand for air-conditioning equipment picks up where heating requirements dwindle. Fuel oil is not an essential to air-conditioning but its use in various compressors is meeting acceptive response, particularly in large stores, office buildings, factories and theaters.





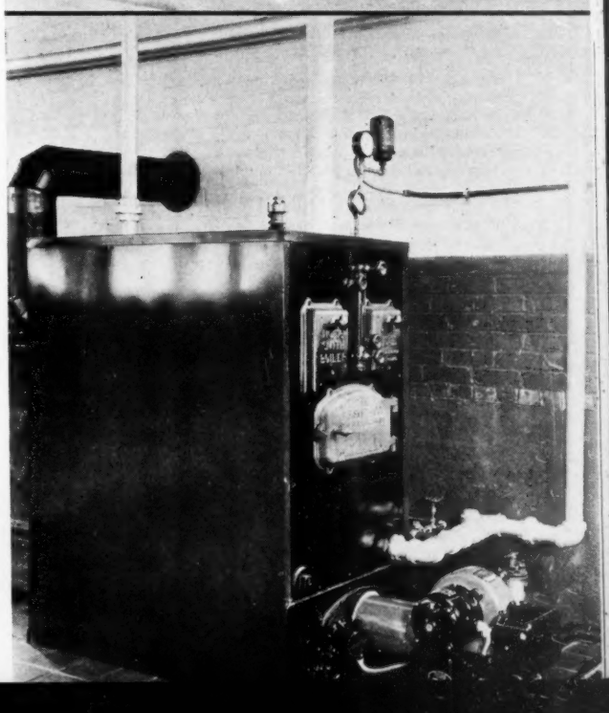
Types of residential oil burners

Failure of heating oil units to render satisfactory service to the customer reflects in the long run against the oil companies regardless of the intermediate stops at the door steps of the burner manufacturer, the retail dealer and the jobber. In the final analysis loss of a dissatisfied customer is a loss of the oil company which otherwise might supply fuel for the burner for an indefinite period of years. It is due to the ultimate damage to the oil refining company caused by improper performance of poorly serviced or inefficient burner manufacturing that oil companies are giving serious consideration to all phases of the problem.

Under modern refining practices oil companies are convinced they are equipped to supply a fuel thoroughly desirable and satisfactory if used in efficient equipment properly maintained. That is the reason they are giving attention to manufacture and service of burners.

Immediate future of the fuel oil industry seems definitely linked with the small, mechanical draft, domestic type burners designed for heating moderate cost homes. Burner sales through August this year were concentrated more than 80 per cent on the domestic, central heating type of installation. The domestic burners alone installed during the first eight months of this year will consume roughly 4,785,715 bbls. of fuel oil this winter.

So far as the northern Atlantic territory is concerned, oil burner manufacturers, through their affiliated independent oil company dealers in a majority of instances, are appealing directly to the moderate salaried home owner in their present campaigns. The burner salesmen are offering their units on the basis of weekly payments, with nothing down, to appeal



to the installment purchaser. Oil companies, generally speaking, are reluctant to enter the field for this class of business involving heavier bookkeeping, credit investigating and collecting expenditures. The hesitancy to bid for this class of business probably has retarded entry of oil companies into the burner manufacturing, selling and servicing field. However, there are increasing indications that the desire for a reasonably assured fuel oil outlet, believed by many possible through the alternative procedure, is becoming more and more attractive.

Burner salesmen operating independently of fuel connections are also often guilty of closing a sale with the argument that his particular product will operate satisfactorily on a lower grade of oil than will give dependable service. However, this impediment to long term, satisfactory service is partially offset by the refining companies themselves which have been gradually improving their fuel oil specifications. For example, most refiners are now manufacturing No. 4 fuel oil via complete distillation with viscosity ranging from 50 to 250 seconds at 100° F. Saybolt Universal method. Under previous specifications, which are still considered the official standard, the No. 4 oil viscosity ranged from 70 to 500 seconds at 100° F.

FUEL SPECIFICATIONS

Several other changes in fuel oil specification standards are in process of adoption. Formal approval by the A.S.T.M. is awaited, but in the interim refiners are manufacturing products that equal or excell the proposed new standards to the end that customers are obtaining satisfactory results with a less expensive fuel. It is pointed out, however, that No. 4 oil is not satisfactory for vaporizing type and wall flame rotary burners. It is also noteworthy that Underwriters Laboratories do not recommend heavier than No. 3 oil for a vast majority of the more popular domestic burners.

Although domestic installations are setting the pace in sales by a wide margin, mechanical draft industrial burners and boilers and furnace units have made rapid strides this year over the 1935 record. There will be more than 3,000,000 oil burners of various types in use in this country by the middle of November, if sales for September and October maintain their relative position of 45 per cent above 1935 installations.

Based on past experience, fuel oil sales managers calculate that each domestic unit will consume approximately 2,000 gallons in a normal winter. The consumption figures vary from about 1,800 gallons per unit in the Washington, D. C., territory to 2,400 gallons in the average New England home.

To meet the increased demand for gas oil and distillate fuel anticipated this winter, the nation's oil companies held approximately 28,190,000 bbls. of stocks at the end of September, including approximately 8,800,000 bbls. in California unavailable to the eastern seaboard and Great Lakes markets. At the end of September, 1935, gas oil and distillate fuel stocks totaled 24,272,000 bbls., but the eastern part of the country was running dangerously near tank bottoms when spring relieved demand. At the end of February, 1935, the eastern coast district carried only 2,214,000 bbls. of gas oil and distillate stocks, equal to no more than a week's supply.

FUEL OIL SUPPLY

Due to sharp increases in gasoline demand so far this year, refiners have been enabled to manufacture more fuel oil than justified a year ago.

With fuel oil consumption certain to reach new peaks this winter refiners are faced with an operation problem of no small significance. As recently as two or three winters ago, refiners were able to slacken their winter runs commensurate with the reduction in gasoline consumption. Practically the reverse situation is present now and probably will continue as long as fuel oil consumption continues to grow. There is a relatively small selectivity range available to refiners in increasing fuel oil production while reducing gasoline output. Even if it were possible to materially increase fuel oil production at plants to the detriment of gasoline, it would be impractical, refiners point out. They call attention to the greater margin of profit available from gasoline and are disinclined to sacrifice their "money crop" for the less profitable fuel oil business.

During the winter months of 1935-36, petroleum products consumption was 2.2 per cent above the volume used in the so-called six summer months. In 1929 the winter consumption dropped as much as 11.5 per cent below the summer volume.

Winter gasoline consumption growth has accounted for the balancing of seasonal demand to some extent, but the growth of fuel oil volume has played an even more important role.

Position of the country's fuel oil stocks, where they are held and statistics on burner sales are shown in the accompanying table.

GAS OIL AND DISTILLATE FUELS

Month—	Stocks— 1936	1935
January	17,418,000	18,021,000
February	15,322,000	16,260,000
March	15,746,000	16,052,000
April	17,031,000	16,232,000
May	19,910,000	17,365,000
June	22,475,000	20,232,000
July	24,814,000	22,915,000
August	27,645,000	23,860,000
September	*28,190,000	24,272,000
October	.....	24,299,000
November	.....	23,263,000
December	.....	19,930,000

*Estimated.

STOCKS BY DISTRICTS

	Oct. 3, 1936	Mar. 1, 1936	Change since March
East Texas	6,760,000	2,214,000	+ 4,546,000
Appalachian	341,000	160,000	+ 181,000
Ind., Ill., Ky., etc.	3,339,000	907,000	+ 2,432,000
Okla., Kans., Mo.	1,131,000	745,000	+ 386,000
Inland Texas	423,000	226,000	+ 197,000
Texas Gulf Coast	4,514,000	2,453,000	+ 2,061,000
Louisiana Gulf	1,256,000	762,000	+ 494,000
Ark. and La., Inland	119,000	54,000	+ 65,000
Rocky Mountain	207,000	204,000	+ 3,000
California	*8,800,000	7,597,000	+ 1,203,000
Unreported	*1,150,000	.....	
Total	28,040,000	15,322,000	+12,718,000

*Estimated.

OIL BURNER ORDERS

Type—	8 Months 1936	8 Months 1935	Increase 1936	Total 1935
Domestic mech. draft	81,118	54,793	26,325	112,799
Domestic nat draft.	344	421	*77	1,116
Ind. mech. draft	7,928	5,726	2,202	9,806
Ind. nat. draft	1,100	1,699	*599	2,657
Boiler burners	7,004	5,263	1,741	10,002
Furnace burners	3,179	1,053	2,126	3,071
Total	100,673	68,955	31,718	139,451
Percentage change			46%	

*Decrease.

A. W. Breeland Heads Safety Council's Oil Section

The following executive committee was chosen by the petroleum section of the National Safety Council, which held its twenty-fifth annual congress in Atlantic City, N. J.: General chairman, A. W. Breeland, Lone Star Gas Co., Dallas, Tex.; vice chairman, A. J. Martinson, Union Oil Co. of California, Los Angeles; engineering committee, E. D. Murphey, Mid-Continent Petroleum Corp., Tulsa; health committee, Dr. V. C. Baird, Humble Oil & Refining Co., Houston, Tex.; poster committee, H. T. Markee, Phillips Petroleum Co., Bartlesville, Okla.; program committee, R. B. Roaper, Humble Oil & Refining Co., Houston; publicity committee, Glenn Byers, Shell Petroleum Corp., St. Louis, Mo.; statistics committee, J. W. Myers, Standard Oil Co. (New Jersey), New York; news letter editor, J. H. Brown, Tide Water Oil Co., New York.

Division chairmen selected by each group: Atlantic, R. L. Simpson, Texas Co., New York; Great Lakes, F. R. McLean, Socony-Vacuum Oil Co., Inc., White Star division, Detroit, Mich.; Gulf, D. B. Hiatt, Texas Pacific Coal & Oil Co., Fort Worth, Tex.; Mid-Continent, Kraus Earhart, Texas Co., Tulsa; Pacific, L. K. Butler, Union Oil Co. of California, Los Angeles; Rocky Mountain, B. V. Osborn, Standard Oil Co. (Indiana), Casper, Wyo.

H. N. Blakeslee, American Petroleum Institute, New York, was elected secretary of the petroleum section. Dr. C. H. Watson, New York, medical director of the American Telephone & Telegraph Co., was reelected president of the council.

Warns of Gas Depletion

CALGARY, Alberta, Oct. 24.—Addressing the Calgary Board of Trade, Dr. T. A. Link, chief geologist of Imperial Oil, Ltd., warned against continued dissipation of the Turner Valley gas reserves. The gas supply was by no means unlimited, and pressures had already dropped from over 2,000 to around 785 pounds.

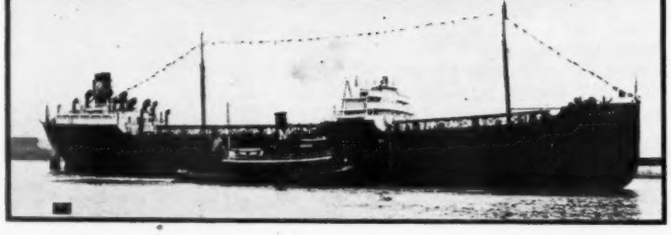
NEW PAN AMERICAN TANKER IS CHRISTENED BY MRS. R. E. WILSON

The S. S. Pan-Maine, launched last week at Kearney, N. J., is the second tanker completed and placed in service of a four-vessel building program by Pan American Petroleum & Transport Co. Mrs. Robert E. Wilson, wife of the Pan American vice chairman, was sponsor of the boat which started its first load trip from Texas City, Tex., this week. The boat has a cargo capacity of 100,000 bbls.

To operate the four new tankers constructed and under construction, Pan American Petroleum & Transport Co. has established a new marine department and has appointed James P. Patterson, manager. Mr. Patterson, whose services with the company extend over 19 years, was for 12 years superintendent of the company's Carteret, N. J., terminal and for the past three years has been manager of ocean terminals and of marine transportation.

T. A. McQuilling, known extensively in shipping circles, has been made superintending engineer of the marine department and G. H. Junker has been appointed port steward.

Earlier this month the S. S. Pan Amoco was launched at Chester, Pa., where another boat is nearing completion.



Division of Crude Oil Markets Depends Upon Operators and State Agencies

By C. O. WILLSON

NEW YORK, Oct. 24.—The equitable division of crude markets by states and the maintenance of a healthy condition in regard to total supply and demand largely depends on the attitude of state allocation agencies and crude-producing and -buying companies.

This becomes more and more apparent as leaders of the industry weigh the factors which have made possible the improved conditions of the past year including these which will also assure their continuance in the future. Comments of oil company officials at several points and representative opinions obtained in Washington indicate a fear state officials and operating units may attempt to shift to the Bureau of Mines, the Interstate Oil Compact Commission or some other agency the responsibility which properly belongs with them.

The point is emphasized that the federal government's only direct control over the industry's operations is the Connally Act outlawing interstate movement of oil produced in excess of state allowables. Enforcement of this has been helpful, but it is of minor importance in the present situation due to improved conditions in the East Texas field. The Interstate Oil Compact essentially is an interstate agreement approved by the government for the purpose of assuring the orderly production of a natural resource and has no authority in the allocation of markets for petroleum and its products. Failure of important oil-producing states to join this compact has restricted the scope of its activities which are limited at best so far as the actual direction of the industry's operations is concerned.

In connection with the recent suggestions regarding the work of the Bureau of Mines in making monthly recommendations covering crude production it is pointed out the bureau occupies an advisory and somewhat thankless position in helping the industry to determine its total market for crude and then divide it so everyone is satisfied. It not only has no authority to enforce its suggestions, but the recommendations as to allocations by states are in the final analysis dependent on the action of crude-producing and buying companies and the state allocation bodies.

A brief explanation of the work of the bureau in connection with the monthly recommendations will make this clear. The figure on total demand for crude is arrived at largely by estimating the probable demand for gasoline. Normally this part of the bureau's work is relatively easy, although more complicated this year due to expansion in requirements greater than had been anticipated. The bureau's estimated gasoline requirements for the first eight months were within less than 1 per cent of actual demand.

The difficult job is to translate these estimated gasoline requirements in terms of crude. A variation of .1 per cent in the yield of gasoline from crude for the entire country makes a difference of 10,000 bbls. daily in crude requirements. Developments in demand for refinery products other than gasoline in both export and domestic markets also affects crude requirements.

REVISION BY STATES

Crude requirements having been estimated, the next task is to make a satisfactory division by states. The obvious difficulty here is that while a division by producing states has to be made, in the movement of crude and refinery products by rail, pipe line and water no attention is paid to state lines. Oil either in the form of raw material or finished products moves in and out of the principal producing states, with the bulk of the actual consumption taking place in states which have little or no production.

The difficulties which this uncontrollable situation presents in allocating crude production by states are apparent. The only thing that the Bureau of Mines can do is to take markets as its finds them and these in turn are determined by actual movement of oil from month to month. This means if operators in one state decide to increase their production with or without approval of the state allocation agency they will automatically obtain a larger share of the total market. As an example, if over a period one or more companies decide to increase takings from Louisiana fields 20,000 bbls. daily and reduce their production or purchases in Texas that much, Louisiana will be given that additional market in the bureau's recommendation so long as that situation continues.

Thus, in effect, the bureau only attempts to interpret market trends and in no way attempts to control them. The percentage of the total demand of any state in its monthly recommendation is determined in part by actual shipments in that state over a period several weeks earlier.

This explains the contention of those who have made a special study of the problem that the responsibility for the division of markets is dependent on the action of the companies and the states themselves. If individual companies, with the approval of the state in which they operate, insist on increasing their production, there is nothing the Bureau of Mines or any other governmental agency can do to prevent it. If other producers and states refuse to give up enough of their market to absorb this additional supply, overproduction will result and the entire industry's markets will be threatened. The solution to any threat of this kind lies in a give-and-take attitude on the part of all concerned with due recognition of the fact that any quick

(Continued on Page 30)

SHELL PRESIDENT ON "THE FIRING LINE"

When the last section of the new Shell Oil Co. pipe line was welded near Byron, Calif., on Friday, a new world's record for industrial construction was made. The 304 miles from the Bakersfield oil fields to Shell's Martinez refinery was completed in just 70 days! S. Belither, president of Shell Oil Co., welded the last section of pipe line in the presence of Vice Presidents W. P. Durkee and G. H. Van Senden, and F. B. Simms, manager of the pipe line department. Mr. Belither and other executives, looking like "men from Mars," are wearing goggles and gauntlets to protect them during the welding ceremony

Natural Gas News

Lone Star Rehearing

AUSTIN, Tex., Oct. 27.—Lone Star Gas Co. has filed motion for rehearing by the supreme court on an application for a writ of error in its gate rate case which the court denied October 7.

In denying the application, the supreme court sustained a court of civil appeals decision which was in conflict with U. S. Supreme Court rulings in recent months, the company alleged. It also alleged its right of judicial review had been denied by the court's refusal to grant a writ.

The case grew out of a 1932 railroad commission hearing to investigate the company's property for rate making purposes. The commission ordered gate rates charged at 300 towns reduced 20 per cent.

The company brought suit and a Travis County district court rendered judgment upon a jury verdict for the company. The state appealed to the court of civil appeals and obtained a reversal.

O.N.G. Earnings Improved

Oklahoma Natural Gas Co. and subsidiaries for the fiscal year ended August 31 had a net income of $866,555 before provisions for undistributed earnings and surtax against $561,957 in the preceding year of 1935.

Llano Gas Franchise

LLANO, Tex., Oct. 26.—The Llano city council granted a conditional natural gas franchise last week to J. W. Moore of Lubbock, who is working on a project for the construction of a pipe line from the Brownwood field to serve several hill country towns, provided franchises are granted in these places. A Houston company has agreed to start construction of the pipe line within 60 days after the franchise and contracts have been turned over to him.

Natural Gas Sales in Detroit

With 60 per cent of Detroit meters in natural gas service, September sales of natural gas by the Panhandle Eastern Pipe Line Co. for distribution in Detroit rose to more than 353,000,000 feet, an average daily delivery of nearly 12,000,000 feet, according to J. D. Creveling, president. In August, sales totaled 98,000,000 feet, a daily average delivery of about 3,000,000 feet. Sales in October have been rapidly increasing, and on one day during a period of low temperatures, volume reached a record of over 30,000,000 feet.

First introduced in Detroit on July 9, natural gas is now supplied through the Panhandle Eastern system to over 235,000 meters in 16 out of 27 districts, or about 60 per cent of all the meters in the city, which percentage is rapidly increasing and is expected to reach 100 per cent early in November.

At the present time, about 2,400 men are employed in changing over from the old artificial gas to the new natural gas.

West Virginia Gas Operations

PITTSBURGH, Pa., Oct. 26.—In Calhoun County, West Virginia, Lyle S. Ayers completed a test on the H. M. Hathaway farm in Sherman district at 1,999 feet, Big Injun sand, as a gas well. Big Lime was at 1,825-1,924 feet; Big Injun at 1,924-92 feet with a show of gas at 1,945 feet and 75,120 feet at 1,965-79 feet. In Lee district, Starcher and Richards drilled a test on the Stella Campbell farm through 1,674 feet and was dry. Big Lime was at 1,519-90 feet; Keener, 1,590-1,619 feet; Big Injun, 1,619-67 feet. It is being abandoned.

In Lincoln County, A. N. Henson, Trustee, completed a test on the Grover Reynolds farm, Carroll district, as a gas well at 2,050 feet. Big Lime was at 1,300-1,495 feet; Big Injun, 1,525-1,600 feet; Berea, 2,025-45 feet with 125,760 feet of gas at 2,026-44 feet.

In Marion County, Owens-Illinois Glass Co. drilled a test on the J. W. Knight farm in Paw Paw district deeper to 2,438 feet through the Fifty Foot sand and it was dry.

In Ritchie County, R. C. Jackson completed a test on the J. M. Lewis farm in Grant district in the Berea sand at 2,138 feet, gauging 397,000 feet. In Murphy district, Patterson and Pope completed No. 4 on the Harry W. Patterson farm at 1,955 feet, Injun sand, gauging 74,000 feet.

In Upshur County, Cumberland-Allegheny Co. completed a test on the Lee Kidd farm in Buchanan district in the Benson sand at total depth of 4,500 feet, gauging 114,000 feet. This company is rigging up on the Cecil Snider farm, same district.

In Wayne County, V. L. Lusher completed No. 3 on his property in Union district, gauging 262,000 feet. Total depth was 3,460 feet with Big Lime at 1,575-1,750 feet; Big Injun, 1,850-75 feet; Berea, 2,422-30 feet; Brown shale, 2,860-3,445 feet and gas at 3,060-3,380 feet.

In Wetzel County, Hope Natural Gas Co. completed No. 8 on J. M. Allen farm in Grant district at 2,383 feet. Big Injun sand, gauging 1,800,000 feet. In this district, Pittsburgh & West Virginia Gas Co. completed a test on the Wesley Brewer farm in the Injun sand at 2,350 feet, gauging 380,000 feet.

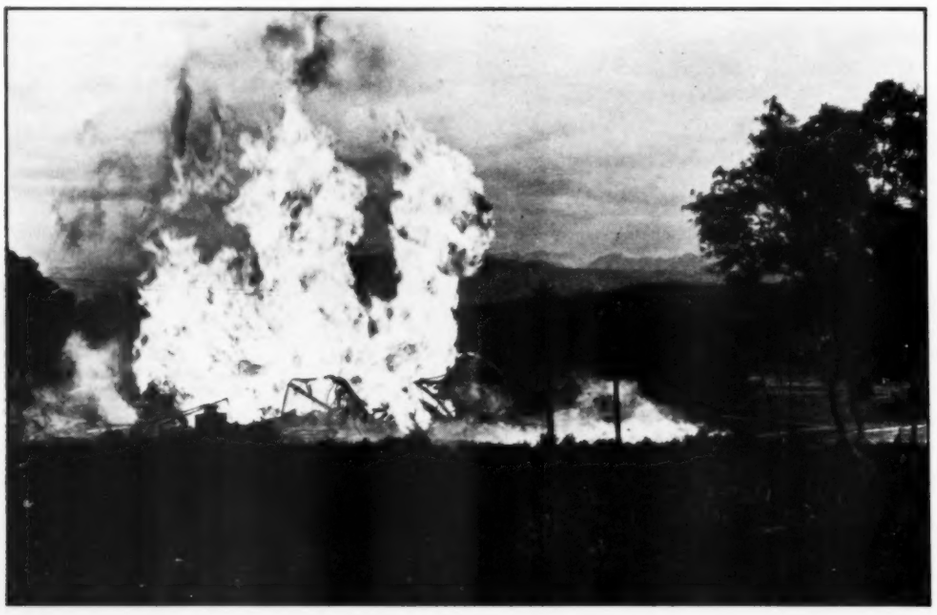
In Wirt County, Dawson Oil & Gas Co. completed a second test on the E. C. Dawson farm in Burning Springs as a small gas well in the Injun sand at 1,985 feet. It gauges 19,000 feet a day.

Houston Gas Rates

HOUSTON, Tex., Oct. 27.—An ordinance that may lead to an attempt to reduce the domestic rate of gas in Houston is before the city council. It would grant a 30-year franchise to H. C. Cockburn, trustee for Channel Gas Corp., to lay lines within the city for transportation of natural gas for wholesale consumption.

The corporation plans to sell gas to the city-owned Magnolia Park gas system, a distributing system, and also to private industries, particularly in the Ship Channel area. It does not provide for retail distribution and does not put the new firm in competition with the two local gas companies.

The city has already executed a five-year contract with the new concern, for the purchase by the city for use in the Magnolia Park system. The city has been paying 27 cents per 1,000 feet of gas to Houston Gulf Gas Co. For gas that leaked out of the city-owned mains before passing through the consumer's meter, the city pays 16 cents. The city's contract with Houston Gulf Gas Co. expired in November, 1935, and the city has been buying gas from it on a month-to-month basis since.



Gas well fire at Chikuto, Formosa

Natural Gasoline

Magnolia Completing Plant

FORT WORTH, Tex., Oct. 26.—Magnolia Petroleum Co. is scheduled to complete and place in operation this week its new absorption natural gasoline plant in Winkler County, Texas. The plant is located on the W. W. Walton lease, 3 miles north of Kermit, in section 1, Block B-26, P.S.L. Survey. Daily gas capacity of the plant is 18,000,000 feet, recovering approximately 15,000 gallons of natural gasoline.

C.N.G.A. Fall Meeting

LOS ANGELES, Calif., Oct. 24.—The general program for California Natural Gasoline Association's big fall meeting at the Biltmore Hotel, Los Angeles, on November 5, is now complete, according to William Moeller, Jr., chairman of the program committee, and some fine speakers have been engaged for the occasion. Among the papers listed for presentation is one on "Polymerization," a subject of extreme interest to the entire industry at the present time. This will be delivered by a representative of the M. W. Kellogg Co. Other speakers of note are Lieut. Colonel Oldfield of the U. S. Army, who will discuss "Coast Defense," and C. C. Moore, Jr., and Dr. R. I. Stirton, Union Oil Co. research engineers, who will inform the group on "The Influence of Automobile Design on the Use of Natural Gasoline."

The technical committee under Chairman W. C. Dayhuff has scheduled a full series of morning sessions on topics pertinent to the natural gasoline industry.

Moore County Carbon Plant

AMARILLO, Tex., Oct. 27.—Contract has been let for a carbon black plant to be built in the sour gas area of Moore County, with a daily capacity of 70,000,000 feet, to cost approximately $1,250,000.

R. I. Wishnick, of New York, with Continental Oil Co. and Shamrock Oil & Gas Co., are the contracting parties.

Under this contract the Shamrock Oil & Gas Co. will purchase the gas from the Continental Co. properties in Hutchinson and Moore counties for extraction of gasoline. The Shamrock company will supply the residue gas for the new carbon black plant to be located in the southeast quarter of section 440, Block 44, H.&T.C. Survey, about 1 mile north of the McKee plant of the Shamrock company, between Dumas and Sunray. It will be

operated by a joint corporation of the three contracting parties.

In addition Shamrock Oil & Gas Co. has submitted plans to contractors for a 2,000-bbl. cracking plant to be constructed on the McKee site. The contract will be awarded in Pittsburg November 5. It is expected to cost about $300,000. This cracking plant is to be the very latest and most completely equipped and so constructed it can be enlarged with little difficulty.

Barnsdall Improves Plant

LOS ANGELES, Calif., Oct. 24.—Barnsdall Oil Co. has completed installation of a new steam generating plant at its Elwood, Calif., natural gasoline plant. The addition included three new 150-horsepower boilers equipped with water walls and brought the total horsepower to 1,350. Contract for installation was to Industrial Engineers, Inc.

Refinery Projects

Gulf to Enlarge Refinery

TOLEDO, Ohio, Oct. 24.—The Gulf Refining Co. has announced the purchase of 14 acres of land adjoining the Toledo refinery, which will be used for additional storage and to increase the capacity of this refinery. This increase, which will double the capacity of the Toledo refinery, was made necessary by the acquisition of new retail outlets and is in line with the new program.

New Findlay Refinery

FINDLAY, Ohio, Oct. 24.—It was announced by the Petroleum Fuels, Inc., of Cleveland, Ohio, that construction of a new refinery will be started at once in Findlay, Ohio. This new refinery will operate on Lima crude exclusively and will have a capacity of 1,500 bbls. a day.

A full line of petroleum products will be refined at this plant and a corporation has been formed to distribute these products throughout the state of Ohio. The new company will be known as the Lima Crude Refining Corp. H. C. Goff, president of Petroleum Fuels, Inc., will also be president of this new corporation and Edward O'Neal, formally with the Canfield Oil Co., will be plant superintendent.

New Refinery for Talco

FORT WORTH, Tex., Oct. 24.—Construction of a 3,500-bbl. cracking unit and asphalt plant at Mount Pleasant, Tex., near the Talco pool, is to be started in the near future. A 6-inch pipe line will be laid from the field to the plant, a distance of 15 miles. Two 55,000-bbl. tanks are now being constructed for storing the crude after the line is completed, in about 30 days. The refinery is expected to be completed within the next three months.

The company is comprised of the following individuals: Capt. J. F. Lucey, R. E. Fair, the firm of Byrd-Frost, Inc., and Slyvester Dayson, president and general manager of the Premier Refining Co., Longview.

McMurray Refinery Completed

McMURRAY, Alberta, Oct. 24.—The new 700-bbl. refinery of the International Bitumen Co. at Bitumont, 55 miles down the Athabaska from McMurray, has started operations after satisfactory tests. The main output will be diesel fuel. The separation plant, producing 50 bbls. of crude per hour from the tar sands, will be run to capacity to supply the refinery.

Shamrock Plans New Unit

AMARILLO, Tex., Oct. 27. — Shamrock Oil & Gas Co. has submitted plans to various contractors for the construction of a 2,000-bbl. cracking plant, to be located near the company's McKee natural gasoline plant in Moore County, Texas. Contract for the construction is to be awarded in Pittsburgh, Pa., in the early part of November, the cost of the cracking unit to be approximately $300,000.

Pipe Line Activity

Lance Creek Line

CASPER, Wyo., Oct. 27.—J. M. Huber Co., Lance Creek, Wyo., will construct a 2-mile pipe line to carry gas to a carbon black plant. This 10-inch pipe, multiflame lindewelded, will replace an 8-inch line now in service.

Kansas Line

Cities Service Gas Co. has made plans for laying 7½ miles of 6½-inch O.D. gas line near Mattfield Green, Kans., using lindeweld bellhole method and its own construction crews.

Pipe Line Extension

AYLMER, Ontario, Oct. 24.—R. L. Pattinson and associates of Chatham are laying 5½ miles of 4-inch transmission line to deliver natural gas from the Williams lease in Bayham Township to the Central Pipe Line Co. system at Aylmer.

Colorado-New Mexico Line

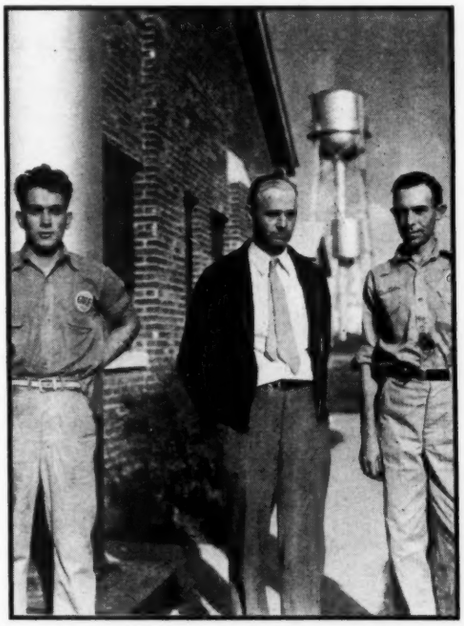
DENVER, Colo., Oct. 27. — Contract for 15½ miles of 4½-inch O.D. oil line has been let to J. H. Gates, of Denver, by William E. Hughes Estate. This line, which is to run from Abandoned Peak, Colo., to Chama, N. Mex., will be oxy-acetylene welded by lindeweld method. Construction is to start this week.

Replacing Pipe Line

CHATHAM, Ontario, Oct. 24. — Southern Ontario Gas Co. is reconditioning its 10-inch main transmission line from Glenwood in the Tilbury field, Kent County, Ontario, to Hamilton. About 10 miles of new lines are being laid between Glenwood and Talbotville.

Panhandle Eastern Expansion

The increased load of natural gas on the lines of the Panhandle Eastern Pipe Line Co. running from Texas through connections to Detroit and other service areas in eastern central states is now the object of studies for important increases in plant by the Columbia Gas & Electric System, which is prepared to advance funds needed for the expansion envisaged. The additions that are being considered will consist of increased pumping equipment and additional storage capacity, and, in some instances, duplicate pipe lines.



Left to right: L. W. Lawson, operator; K. S. Slagle, chief engineer; J. Dutton, engineer, Strang station, Oklahoma, Tulsa pipe line division, Gulf Refining Co.

Gas Line Renewed

LETHBRIDGE, Alberta, Oct. 24. — Canadian Western Natural Gas, Light, Heat & Power Co. is renewing several miles of its main transmission line north of Coaldale, Alberta. The original line was laid in 1912.

Willacy County Project

McALLEN, Tex., Oct. 27. — Crude from Shell Petroleum Co. No. 1 Yturria in Willacy County is being trucked to the Valley Refining Co. at Harlingen for refining. It is expected a pipe line will be laid to deep water at Port Isabel as soon as new wells increase production.

Union Duplicates Line

LONDON, Ontario, Oct. 24.—Union Gas Co. of Chatham has commenced the duplication of its main transmission line between the Dawn field and London. Several miles of 8-inch line are being laid across Dawn Township; and about 30 miles of 8-inch and 10-inch line between Glencoe and London. Ultimately the entire 55 miles of line will be duplicated.

Talco Line Stations

FORT WORTH, Tex., Oct. 27.—Heavy viscosity of the oil is responsible for Humble adding two booster stations on its Talco-Longview line and extra units at Marshall station on the Longview-Shreveport line. They are also expecting to heat the Talco crude in order to move it through the lines this winter.

Gas Line to Muskegon

MUSKEGON, Mich., Oct. 27.—Natural gas from a recently developed field near Ravenna, Mich., will soon be available to industrial users in Muskegon served by West Michigan Consumers Co., which started construction October 20 on a 6-inch 12-mile line which is being solidly oxy-acetylene welded by the lindeweld method. The line will be rushed to completion as rapidly as possible.

Natural Gas for Hepworth

HEPWORTH, Ontario, Oct. 24.—Nottawa Oil & Gas Co., headed by A. B. Holmes of Toronto, is laying 2-inch mains to deliver natural gas to the village of Hepworth. The company has been drilling in Amabel Township, securing a fair gas production. It is planning to extend the line to the village of Shallow Lake.

Work on Gulf Line

Work has begun on the approximately 300 miles of loops to the Gulf Refining Co., Tulsa Pipe Line Division, line running from Jenks, Okla., to Dublin, Ind. Contractors are Sheehan Construction Co. and Kelly, Dempsey & Co., of Tulsa; Jones & Brooks of Oklahoma City, and Oklahoma Contracting Co., of Dallas.

Dickinson Field Line

HOUSTON, Tex., Oct. 26.—Bennett Refining Co. is making preliminary survey for a 6-inch welded gas line to be laid from the south extension area of the Dickinson field in Galveston County to Texas City, approximately 8 miles.

Division of Crude Oil Markets

(Continued from Page 27)

change in the normal movement of crude from producer to consumer is certain to bring disturbing developments.

RECOMMENDED CHANGES

At the recent conference in Washington between representatives of the Bureau of Mines and the Interstate Compact Commission it was suggested the bureau estimate demand over periods of six months and the demand for fuel oil and other projects be considered as well as gasoline. It was also suggested a definite program be outlined in regard to future reduction in crude stocks above ground. As these suggestions are studied here and in Washington there are various reactions.

The value of a six-month estimate would be limited, with a greater chance for error than in the monthly estimates. The economic departments of major companies project their crude requirements for periods of six months or longer and they are sufficiently correct to be of value in corporate operations. An A.P.I. committee in the past has estimated requirements covering periods of three to six months and indicated to the industry the trend in markets compared with the same periods of the previous year. For reasons previously explained it probably would be impossible for the Bureau of Mines to allocate markets by states for a six-month period. In that period the bringing in of new fields, major changes in pipeline operations and other developments which cannot be forecast might enter the picture and within a few weeks bring substantial changes in the shipments of crude upon which the bureau's estimates are based.

ESTIMATING DEMAND

The matter of including demand for products other than gasoline in estimates has its complications. It is conceded failure to take into consideration the increasing demand for all grades of fuel oil was responsible in part for the excess stocks of gasoline last spring. Many refiners felt they had to furnish all the demand that came to them for fuels and in doing so accumulated more gasoline than they needed during the winter.

One suggested solution is greater flexibility in refinery operations. It has been estimated a 15 to 25 per cent curtailment in cracking operations during three winter months would assure consumers an adequate supply of residual and overhead fuels. The theory back of this suggestion is that such a curtailment would take care of the seasonal variation in demand for petroleum products and prevent excess accumulations of gasoline in the winter and fuels in the summer.

A weakness in this plan lies in the inability to get the necessary cooperation of refinery operators to make it effective. In the average refinery, cracking equipment represents the largest investment and in most cases the most profitable phase of its operations. A substantial curtailment in operation during three months or longer would materially change the position of this operation at most refineries and would involve sacrifices which many operators would feel prohibitive.

Another viewpoint leans to the position that the matter of fuel-oil supply is one of price and so far as the entire industry is concerned, the only feasible plan is to let supply and demand be dependent on that controlling factor. It is pointed out that when fuels suitable for cracking stock advance in their comparative relationship to gasoline, refiners automatically reduce their cracking operations, the stock being worth more as fuel than as raw material in the refining of gasoline. As fuel prices advance the production of heavy crudes becomes more desirable and this situation over a period will increase supplies. So far as the domestic supply is concerned, if fuel prices are advanced sufficiently high, importers will be in a position to pay the duty of 21 cents per barrel and increase their shipments from foreign countries.

Finally the higher prices will tend to bring about a satisfactory situation in regard to supply by reducing demand. Those consumers who use petroleum fuels on a basis of cheapness and not on their preferential position as fuel, will revert to the cheaper fuels.

In regard to the further reduction in crude inventories it is apparent this is another problem the solution of which rests with the industry. Information obtained from representative companies owning from 5,000,000 to more than 30,000,000 bbls. of crude storage aboveground, shows there is no uniformity in their positions in regard to future reductions. There are companies which admit they have already reduced their crude storage too much and probably would welcome the opportunity to replace some of the crude they have taken out of storage during the past two years.

Other companies have reached their objective in regard to working requirements and do not desire either to add to or reduce their stocks at this time. The third class includes a few companies which expect to make further reductions in their storage. No federal or state department has any control over this situation and in the opinion of many it will prove futile to attempt to set any definite objective in the reduction of storage. Presumably the companies which have more crude in their storage than they need will continue to make reductions and these declines in the future may in part be offset with additions by companies that feel their storage is too low.

One executive of a major company points out that the most important factor in determining aboveground crude storage is the known reserves underground. Large storage programs by major companies were the result of the "feast and famine" method of operation in the twenties. New fields in that period were usually allowed to flow without regard to conservation rules. Fields were short-lived, and the only safeguard the larger operators had in preventing a shortage was to have a large quantity of crude in storage.

The development of several fields in the early thirties along conservation lines with the objective of gaining the largest ultimate recovery has given many companies huge reserves. As these increased, the necessity for steel and concrete storage decreased, and these large holders of crude have made steady reductions in the past several years.

During the past 18 months this executive feels the withdrawals from known reserves have been greater than the additions due to the discovery of new fields. This is particularly true in the case of several companies. Should this situation continue the crude in storage aboveground, now reduced more than 30 per cent from the peak, will have more value in the eyes of its owners and reductions will stop at least until higher prices are obtainable.

OBITUARIES

HOPE H. OGLETREE, 60, Beaumont, Tex., employe of the Magnolia Petroleum Co. for 25 years, died last week.

ROBERT W. YOUNG, employe of the Imperial Oil, Ltd., Sarnia refinery, died at Sarnia General Hospital on October 20, aged 63.

DR. R. J. ELLIS, for many years head surgeon for the International Petroleum Co., in Peru, died suddenly recently at New York City.

CHESTER CURTIS HIATT, 28, chief clerk, southern district Sinclair Prairie Oil Co., at Ardmore, Okla., died last week.

JAMES MASSEY, well known in the United States and Canada, died recently in a Negritos, Peru, hospital, of heart trouble.

PAUL N. BOGGS, 53, former vice president of the Union Oil Co. of California, died recently at Inez, Tex. From his first position with the Union in 1924 as director of sales, he rose to vice president in 1928 and served as chairman of a committee for curtailment of production in California. He supervised the field, geological and land department. He entered the industry with W. T. McFie Supply Co., later becoming manager of J. T. Lucey Co. and vice president of Union Tool Co. in 1919. He retired from the Union Oil Co. in 1933.

PAUL N. BOGGS

Q. V. BRIDWELL, 46, Wichita, Kans., geologist, with Continental Oil Co., was killed October 25, 20 miles west of Ness City, Kans., in a motor accident.

ROY A. SEYMOURE, killed at Seminole, Okla., recently in a boiler explosion while working with the Arrow Drilling Co., was educated at Tri State College, Angola, Ind., where he received his B. Sc., after which he spent two years in the Allis-Chalmers student course and four years in the Tulsa office.

J. A. WHITTENBURG, 79, Panhandle rancher and oil man, injured in an automobile-train collision, died in Amarillo, Tex., last week. He had resided in the Panhandle since 1898. He had acquired 25,000 acres by 1920 when oil was discovered on the property.

JOHN M. GRUVER, 80, died in Butler, Pa., last week from injuries received in an automobile accident. He was brought up in Brookville, Pa., and had been engaged in the oil business practically all his working life, with a wide acquaintance in the Pennsylvania fields. He was a cousin of Hal R. Gruber of the Union Wire Rope Corp., Tulsa.

Gulf Plans Expansion

The first step in a nation-wide expansion program was made by the Gulf Refining Co. last week with the purchase of 16 service stations and a bulk plant from the Johnson Oil Refining Co. in Toledo, Ohio. The change-over, to be made immediately, will give the Gulf Refining Co. over 100 retail outlets in the Toledo area. It also has been announced by Gulf that negotiations are pending for purchase of service stations, bulk plants and refineries of a Mid-Continent company. Although no purchase price was named, it is reported to be in the neighborhood of $30,000,000.

Pipe Line Rate Hearing

WASHINGTON, D. C., Oct. 26.—Representatives of major pipe line companies have asked the Interstate Commerce Commission to postpone a 35 per cent reduction in transportation rates until it had complete, up-to-date information. They protested the recommendation was based on financial operations for years preceding 1933, not applicable to present conditions.

T. H. Burgess, for the Standard Oil Co. of Ohio and National Refining Co., supported the examiner's report.

ANY man who's ever handled a torch will tell you that the quickest, strongest welds are the ones that join two pieces of *identical* pipe—or a pipe and a Tube-Turn.

Why the latter? Because the Tube-Turn is in no way different from the pipe except that it isn't straight. (1) It is made of the same material. (2) It has the same wall-thickness as the pipe—matches the pipe in both I.D. and O.D.

If you think these are small points, just run time and strength comparisons on other kinds of weld! Tube-Turns, Incorporated, Louisville, Ky.

TUBE-TURNS★ PERMIT BETTER WELDING

★ The word "Tube-Turn" is NOT a general name for welding fittings. It is the copyrighted name of the seamless fittings having uniform wall-thickness at all points, true circular cross-section, uniform radius of curvature and smooth inner walls. Made ONLY by Tube-Turns, Incorporated.

COOPER-BESSEMER *Reliability*

MEANS A *Lot* IN THESE KENTUCKY MOUNTAINS

YOU CAN'T HAUL IN SPARE PARTS ON HORSEBACK!

THERE are many times during the year when this compressor station is completely inaccessible from the outside world, except by horseback. No wonder the Kentucky-West Virginia Gas Company demands ABSOLUTE RELIABILITY in its compressor units! The Beaver Creek station is just ONE of the half-dozen in this area that contain Cooper-Bessemers.

In YOUR stations, too, Cooper-Bessemer RELIABILITY can be a "fixed asset" that will save you money every day!

Four Type-80 twins, rated 170 H. P. each, at Beaver Creek, Ky. The Kentucky-West Virginia Gas Company has five additional Cooper-Bessemer powered stations also sending gas to Louisville and Pittsburgh.

THE COOPER-BESSEMER CORPORATION

Mount Vernon, Ohio — PLANTS — Grove City, Pennsylvania

25 West 43rd Street, New York City · Mills Building, Washington, D. C. · 640 East 61st Street, Los Angeles, Calif. · 201 East 1st Street, Tulsa, Oklahoma · 631 Spring Street, Shreveport, La. · Magnolia Building, Dallas, Texas · Esperson Building, Houston, Texas

TULSA CHAPTER FIELD TRIP TO FITTS WAS OPPORTUNE

By PAUL REED

The field trip of the Tulsa chapter, A.P.I. Division of Production, to the Fitts field, Oklahoma, on October 21 came during a week when three wells drilling in that area had reached interesting stages. Among possibilities was the opening of another pool, the extension of a pool in the area, and the discovery of a horizon underlying present producing formations. These activities added to the value of the trip, the main object of which was to make a tour of what had already been developed in Pontotoc County's "biggest little oil field."

The visitors were the guests of E. H. Moore, president of E. H. Moore, Inc., and were taken through the field under the leadership of Levi P. Ackely, general superintendent, and Oscar Hatcher, chief geologist, both of E. H. Moore, Inc. They were assisted by John Fitts in honor of whom the field was named.

To Oscar Hatcher goes the distinction of being a geologist who was born almost on the structure where he is participating in the direction of drilling operations in his professional capacity today. Although brought up near Ada the practice of geology took him no nearer to Ada than Seminole before the opening of the Fitts pool. For years the possibilities of geology in the Rocky Mountains and South America looked more attractive, as the time he spent in these regions testifies.

As the party approached the field, Mr. Hatcher called attention to the Stonewall fault on the north side of the field, where a 5,000-foot displacement can be seen. Within 2 miles of the field outcrops of sands which are producing to the south were pointed out.

In the Fitts field, which is about 5 miles long and slightly over a mile wide at widest, there are 490 wells to six horizons. Of this number there are 360 wells to the Bromide-McLish, 92 wells to the Hunton, 24 wells to the Wilcox. In addition there are wells in formations such as the Gilcrease and the Cromwell. A successful test of the Oil Creek sand has just been completed. To comply with the regulations of the Corporation Commission, required for separate proration of the different sands, it is necessary to drill a well for the production to be obtained from each horizon, at any location. An exception is made in the case of the Bromide and McLish formations which are permitted to be produced through the same string, because uniformity of pressure indicates that the important reservoir conditions are essentially the same for both.

Twinning of wells has occurred already on about a quarter of the locations in the field, and tripling on about a sixth. It is anticipated that within a year, 50 per cent of the locations will be twinned. It is also likely that four or five Wilcox wells will be drilled soon, which it is believed will complete the development of that formation there. At present the production of the field may be considered to be roughly divided between the different formations as follows: 25 per cent from Wilcox, 50 per cent from Bromide-McLish, and 25 per cent from Hunton and above. After the deeper wells are depleted they will probably be plugged back to produce from the Cromwell and Gilcrease through perforated casing. It is claimed that in September the entire Fitts field produced from all formations 1,858,971 bbls.; since the area was located toward the end of 1933, it is estimated total production has been 21,201,509 bbls. At present 25 wells are on the pump in the south and west parts of the field where the Bromide runs low. On the high part of the structure wells drilled during the early development of the field are still flowing.

Until it was learned that subsurface contours drop off five times as fast as surface contours, it was thought that the field would be be more extensive than it has proved. Although the field is now considered to be quite definitely defined there is some discussion of a possible extension to the northeast.

One distinctive feature in the completion of wells has been the departure from the usual practice of avoiding drilling into salt water. At Fitts wells are deliberately drilled into salt water and then plugged back with cement. This has been done successfully throughout the field because of the lime formations in the sand. These lime stringers give the cement something to take hold of—a firm base to anchor to. When plugging back has been correctly done, salt water is shut off.

The A.P.I. party, in the afternoon, divided into groups to visit the three significant wells where sand was being tested or cores taken. Particular attention was given to the Power Oil Co. well near Davis, which, at the moment, is Oklahoma's most interesting wildcat. This is in section 10-1s-2e, Murray County. A visit to the Magnolia well, SE SW section 28-2-7, gave rise to speculation on the significance of the discovery of the Oil Creek sand at 4,651-58 feet which was being given a swab test. This is the farthest well to the southeast. It ran low consistently in the upper formations where favorable indications were not found. At first geologists were at a loss to identify this formation. On account of the faulted condition there is doubt as to its possible extent. This sand was found in two off-structure wells, but it did not produce oil. Sulfur water was found in drill stem tests.

TEST ON NEW ORLEANS TAX

NEW ORLEANS, La., Oct. 26.—United States Circuit Judge Rufus E. Foster has directed New Orleans city officials and the state supervisor of public accounts to show cause why an injunction should not be issued halting the collection of an additional 1-cent city gas tax under an ordinance adopted August 21. Simultaneously the federal judge issued a temporary restraining order against the city, pending the October 30 hearing. The petition for the injunction was filed by the Gulf Coast Oil Co. of Mississippi, Inc., and attacked the constitutionality of the levy.

RICHFIELD VALUATION

LOS ANGELES, Calif., Oct. 27.—Properties of Richfield Oil Co. and Pan American Petroleum Co., if sold piecemeal, were valued at $18,571,968 net, in a report William C. McDuffie, receivership trustee, filed in response to a recent request from federal Judge William P. James.

Independent audits have placed the going-concern value of the properties at from $26,037,700 to $49,526,438.

Mr. McDuffie reiterated former statements that the properties would yield more to all classes of creditors if reorganized under court approval rather than through piecemeal sales.

Judge James has asked various appraisals and estimates in preparation for a hearing to be held soon upon the reorganization plan proposed by Consolidated Oil Co.

HOUSTON GEOLOGISTS

HOUSTON, Tex., Oct. 26.—The Society of Petroleum Geophysicists will hold its midyear meet in the Rice Hotel November 20 and 21. Papers of special interest to geologists and geophysicists will be read. L. W. Blau, of the Humble Oil & Refining Co., Houston, is president of the society.

WISCONSIN OIL ASSOCIATION

The annual convention and equipment show of the Wisconsin Petroleum Association will be held February 23, 24, 25, 1937, in Milwaukee.

EMPHASIZING THE TAX

Gasoline salesmen at a South Carolina city service station make change in accordance with the price, then apologize for asking additional money for the tax, and remove from the change they are about to give the customer the tax payment.

STANDARD MEN OPTIMISTIC

Officials of the Standard Oil Co. of New Jersey expressed themselves as gratified over petroleum prospects generally following their inspection of subsidiary company properties in the Mid-Continent regions. E. J. Sadler, vice president and director of the parent company, said he was particularly pleased over the progress of unitization as an agency of conservation. The increasing consumption of oil products was a subject of comment.

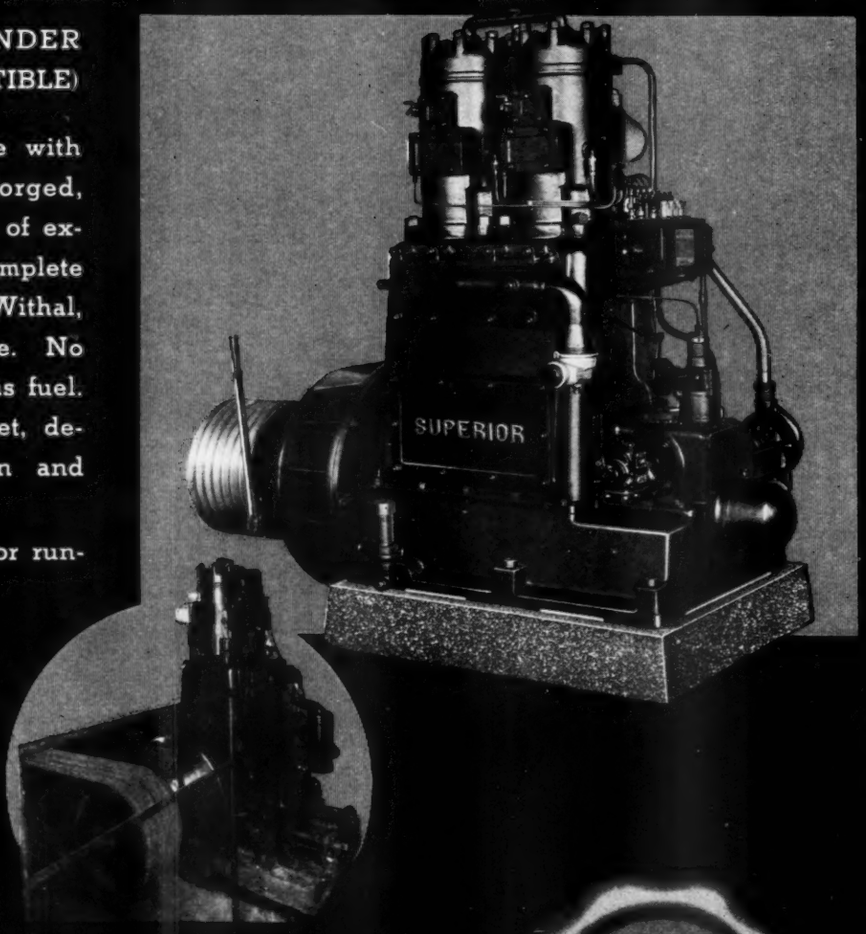
Members of Tulsa Chapter, American Petroleum Institute Division of Production, on a field trip through Fitts field

Superior VERTICAL PUMPING ENGINES

2-CYCLE MULTIPLE CYLINDER FOR GAS OR OIL (CONVERTIBLE)

Heavy duty medium speed type with crosshead construction. Die forged, ground shaft and die forged rods of extremely liberal proportions. Complete enclosure including flywheel. Withal, every part is easily accessible. No difficulty in hand starting on gas fuel. Design throughout insures quiet, dependable, convenient operation and long life.

Large power and speed range for running potentials.



2-cylinder FA, 30 H. P. and GA, 50 H. P. . . . 3, 4 and 6-cylinder sizes up to 300 H. P.

Ideal for geared pumping units, powers, and a wide range of service.

THE NATIONAL SUPPLY COMPANY

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SIR HENRI DETERDING

R. G. A. VAN DER WOUDE

J. C. VAN ECK

J. E. F. DE KOK

NEW POLICIES INTRODUCED BY ETHYL CORPORATION

NEW YORK, Oct. 27.—Two sharp departures from former business policies were launched this week by the Ethyl Gasoline Corp. One is designed to stimulate sales effort for premium Ethyl gasoline by providing for a margin for jobbers and dealers. The other is expected to minimize the wide variations in road performance of gasolines having identical laboratory octane ratings by motor method test.

The revised contracts, effective January 1, 1937, will permit Ethyl licensees to supply their dealers with premium fuel at 1½ cents per gallon and jobbers at 1¼ cents per gallon above the price of regular grades of gasoline. Retail margins of 2 cents per gallon above regular grades will remain unchanged. Under the revised contract, however, dealers may receive a margin of a half cent and jobbers three-quarters of a cent per gallon over and above their normal profit.

The proposal to provide for a small margin of profit at the pumps for the dealer and jobber was made first in 1934. At that time premium fuel represented a small margin of the Ethyl licensees' total business, and the proposal was withdrawn on representation of customers that economic conditions would not support any curtailment of the licensees' profit of 2 cents per gallon, less cost of tetraethyl lead, which is now .26 of a cent per cc.

The optional testing method made available to the Ethyl corporation's customers was announced in a letter and complete survey dated October 27. The survey is the result of a year spent in testing various fuels in 21 automobiles.

The wide variations in road performance of gasolines having identical laboratory octane ratings by the motor method led the Ethyl corporation to make its exhaustive survey along with significant changes in automobile engine design. The variations were most pronounced in low-temperature tests started about a year ago near San Bernardino, Calif., and finished in August in Tulsa. Temperatures at which tests were made varied from 35° to 49°, from 65° to 87° and from 87° to 113° F.

In an extreme case it was found that one fuel having a laboratory rating of 70 octane, motor method, was above 79 octane by the research method of test. On the other extreme, the research method and the motor method tests produced only a slight variation in one of the 35 fuels tested at low temperatures near San Bernardino.

In an effort to minimize the wide fluctuations between road performance of gasolines having the same motor method rating, the Ethyl corporation is offering its customers the option of using a testing method based on the mean of the motor method and those obtained by a low-temperature method. The net results will be to raise the permitted maximum of Q compound content to produce a gasoline of approximately 73 octane rating under the A.S.T.M.-C.F.R. motor method.

SIR HENRI DETERDING RETIRES, J. E. F. de KOK LIKELY SUCCESSOR

Sir Henri Deterding will retire from active general managership of Royal Dutch Petroleum Co. at the end of the year and J. E. F. de Kok, at present manager at The Hague, will succeed him. Sir Henri, who celebrated his seventieth birthday in July, probably will remain on the board. The announcement at The Hague said:

"In connection with a general meeting of the shareholders to be held on November 17, Sir Henri Deterding, general manager, has expressed a wish to resign at the end of the year. A proposal will be made to appoint Sir Henri as a member of the board."

Mr. de Kok, who is 54, is slated to succeed Sir Henri as general manager. He is sometimes described as the "flying chief of the Royal Dutch." Recently he flew his own plane to North Africa and Egypt. He began his career as an army officer, but became an oil engineer. He has been a director of the company for 15 years.

Sir Henri's retirement will terminate 40 years of active service with the company. Since the war he has been one of the key figures in the oil industry. On his 70th birthday several thousand employes from all parts of the world paid their respects to the general manager.

J. C. van Eck, vice chairman of the board of Shell Union Oil Corp., and chairman of the executive committee, will be one of the new managers appointed for the parent company. Mr. van Eck will leave New York around January 1 to take up his new duties at London. R. G. A. van der Woude, president of Shell Union, probably will assume Mr. van Eck's duties in addition to those he now carries.

The other manager appointed, subject to stockholder confirmation November 17, is J. M. de Booy, who has spent considerable time in Venezuela and other South American countries in which affiliates of the parent company have producing interests.

The business of Shell Eastern Petroleum Products and Shell Terminal Corp., Shell Union's Atlantic Coast operating subsidiaries, will be taken over by the Shell Union Oil Corp. effective November 2. Atlantic Coast marketing activities will be transacted in the name of Shell Union. In connection with these changes the following executive appointments have been made: L. T. Kittinger, vice president, will be in charge of marketing on the Atlantic seaboard; R. R. Griffin, vice president, will be in charge of supplies, shipping and sales coordination; T. R. Jurtz, manager of operations, will be in charge of sales operating departments on the Atlantic seaboard.

THE MARKETS*

***CRUDE OIL:** Earnest discussion continues to center around the question of how best to determine crude requirements and to allocate them to the various fields. Though average daily production touched a new peak last week, it is pointed out that crude stocks in Oklahoma and Kansas have been reduced 10,000,000 bbls. since the first of the year and that in some areas buyers are competing for connections. No changes in posted prices of large buyers.*

***REFINERY:** If cold weather, which spread over wide areas this week, continues, it is expected to have an adverse effect on gasoline consumption. Low temperatures at the same time are stimulating the demand for heating oils, which promise to break their record of last year. Heavy fuels also are in good position. While the lubricant market is active in the East, underselling has injured it in the Mid-Continent region.*

***TANK-WAGON AND SERVICE STATION:** Except for reductions in tank-wagon prices at East Coast points by the Atlantic Refining Co., quotations underwent few changes.*

***FINANCIAL:** Oil stocks were among the issues experiencing active trading, with third-quarter reports of earnings serving to stir interest in the group. Average of 30 representative stocks for week ending October 24: High, 37.89; low, 36.15; close, 27.23. Week ending October 17: High, 37.05; low, 35.58; close, 36.28.*

**Detailed information in Market Section.*

SAN ANGELO CONGLOMERATES

SAN ANGELO, Tex., Oct. 26.—San Angelo Conglomerates, resident petroleum geologists, have elected Berte R. Haigh, of University Lands, president; Dr. F. J. Roesli, independent consulting geologist, vice president, and Frank T. Clark, of Empire, secretary-treasurer, for the ensuing year. John M. Rollins, of San Antonio, representative of the Ethyl Corporation, will address the semimonthly meeting of the luncheon club.

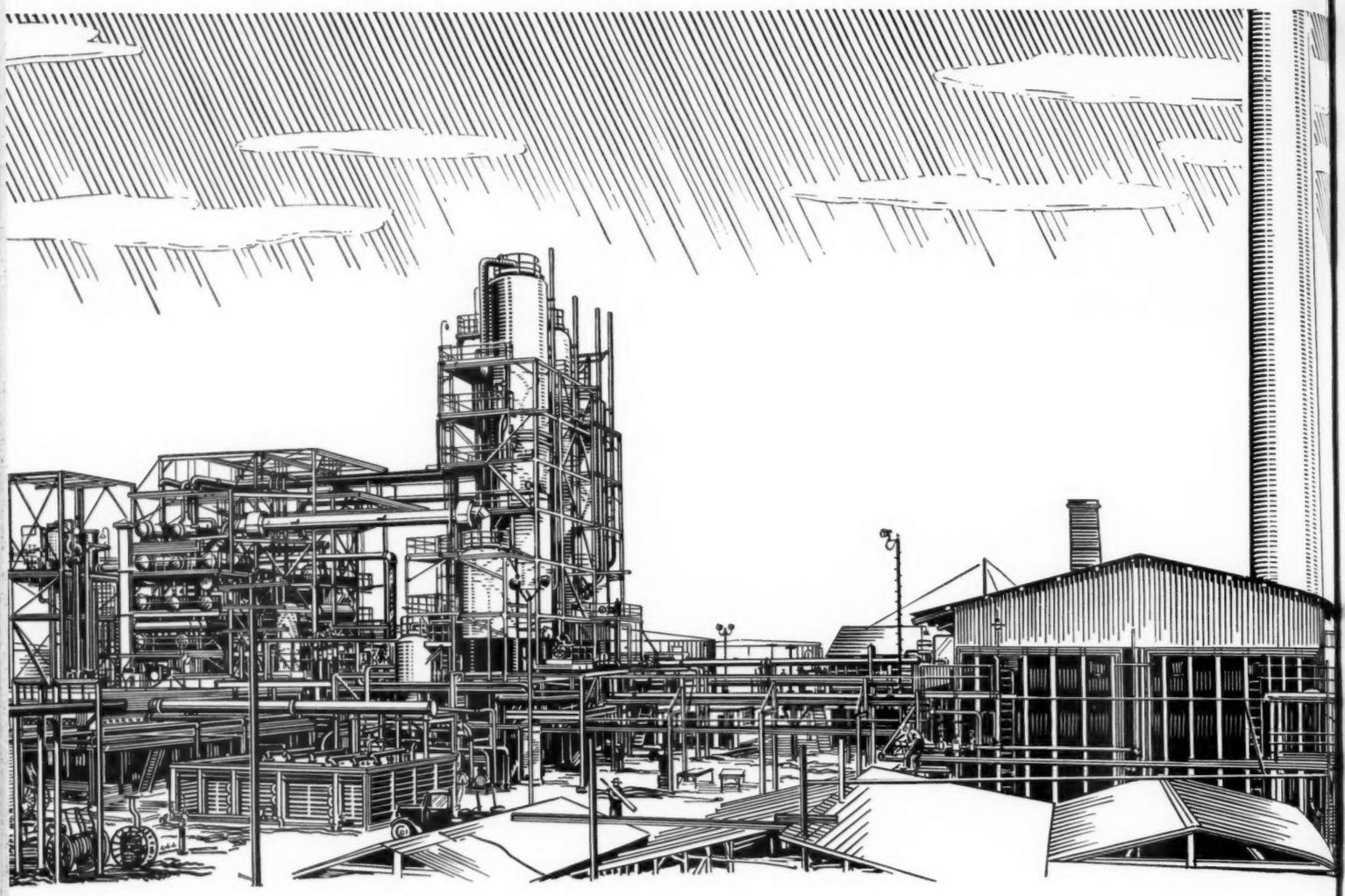
WARNER-QUINLAN CONTRACT

Trustees of Warner-Quinlan Co. have entered into a one-year contract under which Gulf Oil Corp. will supply it with crude and refined oil. The contract involves $5,000,000. The additional supplies thus provided will be used at Warner-Quinlan's refinery in Warners, N. J. Cities Service Co. has a controlling interest in the company.

STORAGE PLANT FIRE

QUEBEC, P. Q., Oct. 24.—Nine gasoline tanks at the storage plant of Canadian Oil Companies, Ltd., in St. Malo suburb were destroyed by fire and explosion on October 20.

Producing Profitable Products



is the primary function of the modern refinery

A KELLOGG-BUILT combination cracking unit enables refiners to vary the proportion of finished products to meet the demands of changeable markets. This flexibility permits production of the products most profitable to the individual refiner.

THE design and construction of such units requires a highly organized knowledge of every phase of refinery technique—testing of crudes—processes—equipment—construction and operating experience.

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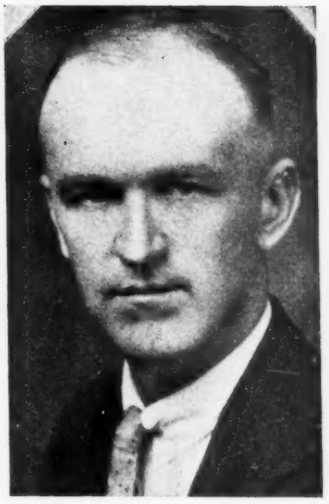
LICENSING AND CONSTRUCTION AGENTS under United States and Foreign Patents for: Gasoline Products Company, Inc. · Cross · Holmes-Manley · de Florez · Tube and Tank · Combination · Cracking Units ••• The Polymerization Process Corporation · Gas Polymerization Units ••• The Gray Processes Corporation · Clay Treating ••• Standard Oil Company (New Jersey) · Standard Oil Company (Indiana) · Union Oil Company of California · Lube oil refining with Propane and Phenol ••• Deasphalting · Dewaxing · Solvent Extraction and Acid Treating Plants

JOHN R. SUMAN

GEORGE A. HILL, JR.

W. L. CHILDS



CHAS. E. SUTTON

Oil-World Exposition Is Planned

HOUSTON, Tex., Oct. 26.—John R. Suman, vice president, Humble Oil & Refining Co., and president of Oil-World Exposition, Inc., has made an announcement that the Oil-World Exposition will exhibit equipment for all branches of the oil industry on alternate years with the first exposition to be held October 11-16, 1937.

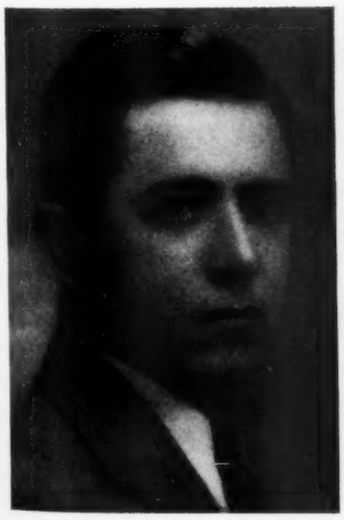
With all plans completed Oil-World Exposition, Inc., has been chartered as a nonprofit organization to conduct expositions of oil tools and machinery and to present to the industry educational information on the latest developments in field and plant operations. The exposition organization is composed of oil men and manufacturers of the Gulf Coast and Texas area and the first show to be put on under its auspices will be held in the new $1,337,000 exposition hall now being built in Houston.

In this active territory methods are naturally being developed constantly for efficient and economical operations in producing and refining and equipment is being designed to meet ever changing need. The Oil-World Exposition will aim to disseminate knowledge of modern practices and will provide means for manufacturers of oil equipment to acquaint the oil man with tools and machinery to meet the many problems with which he is confronted. The management will be under Ed Lenzner, who has had years of experience with his own oil shows in Houston and Los Angeles. The greater facilities have led him to relinquish his privately owned exposition to become general manager of Oil-World Exposition, Inc.

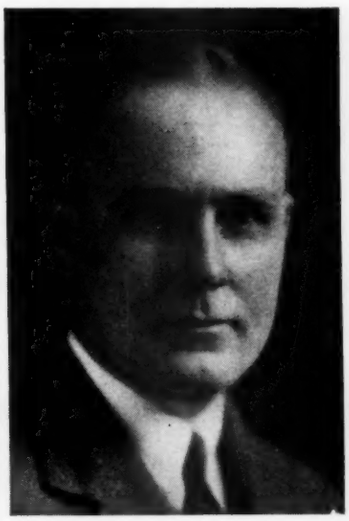
Memberships in the organization are held by oil men and manufacturers alike. A board of directors composed of oil men and manufacturers have been chosen and an executive committee appointed. The members of this committee and the board are as follows:

President, John R. Suman, vice president, Humble Oil & Refining Co.; executive vice president, Chase Sutton, division manager, Pure Oil Co.; vice presidents, J. S. Abercrombie, president, J. S. Abercrombie Co.; George A. Hill, Jr., president, Houston Oil Co.; W. L. Childs, vice president, Reed Roller Bit Co.; Wallace Wilson, president, Wilson Supply Co.; secretary-treasurer, Ray L. Dudley, president, Gulf Publishing Co.; S. P. Brown, vice president, Hughes Tool Co.; W. B. Sharp, president, Mission Manufacturing Co.; Al Buchanan, president, A. A. Buchanan Drilling Contractor, San Antonio; Frank S. Carothers, manager, Norvell-Wilder Supply Co., Houston; S. T. Childress, vice president and general manager, Rio Bravo Oil Co., Houston; H. J. Craig, sales manager, Baash-Ross Tool Co., Houston; John T. Crotty, president, Republic Supply Co., Houston; H. J. Cullinan, vice president, Petroleum Iron Works Co. of Texas, Houston; T. J. Donoghue, vice president, Texas Co., Houston; Harry C. Hanszen, Houston; Jim Harrison, Houston; L. O. Koen, vice president, W-K-M Co., Inc., Houston; Gage Lund, manager, California Co., Houston; A. M. McCorkle, vice president, Stanolind Oil & Gas Co., Houston; D. B. McDaniel, Gulf Coast Drilling & Production Co., Houston; A. T. McDannald, Smith & McDannald, Houston; Robert J. Miller, Robert J. Miller Co., Houston; H. W. Millmine, president, Texas Rubber & Specialty Corp., Houston; C. B. Moore, Frick-Reid Supply Corp., Houston; B. M. Nowery, production superintendent, United Gas Public Service Co., Houston; George O'Leary, president, Houston Oil Field Material Co., Houston; R. W. Pack, general manager, Sun Oil Co., Beaumont; C. R. Patterson, residential manager, National Supply Co., Houston; M. W. Phelps, sales manager, Oil Well Supply Co., Houston; Joe Russell, assistant to the vice president, Gulf Production Co., Houston; T. E. Swigart, vice president, Shell Petroleum Corp., Houston; J. H. Teer, general manager, Layne & Bowler Co., Houston; F. H. Thrailkill, district manager, Continental Supply Co., and W. C. Trout, president, Lufkin Foundry & Machine Co., Lufkin, Tex.

The facilities provided in the new $1,337,000 building are far greater with more exhibit space indoors than at any previous Houston exposition. A large outdoor space will be provided for exhibits of heavy operating equipment. The new exposition building is only several blocks from the main business section of Houston.



WALLACE WILSON



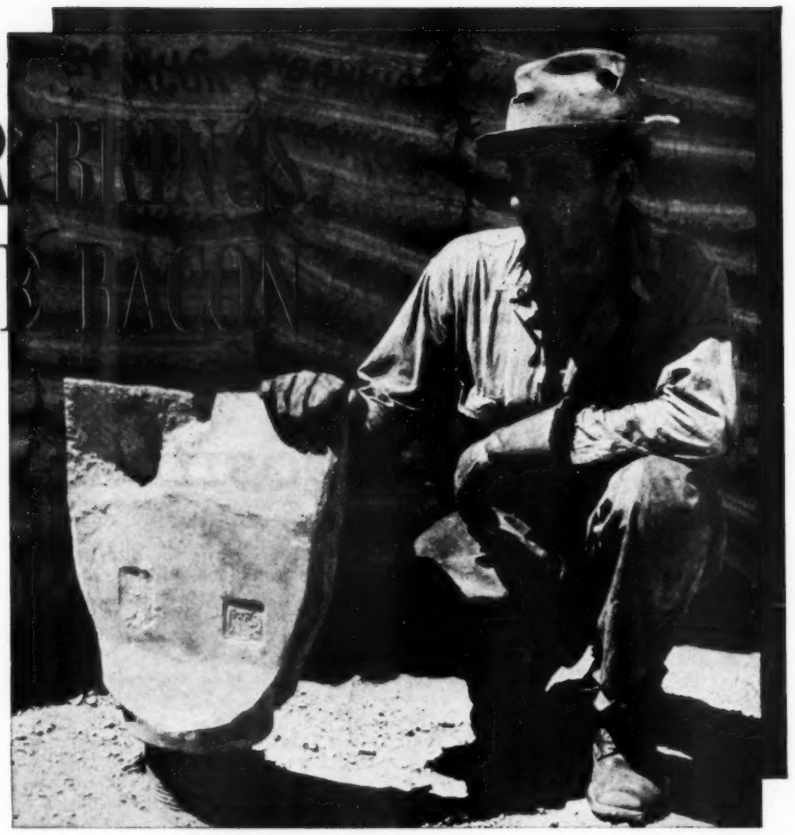
R. L. DUDLEY

E. G. LENZNER

J. S. ABERCROMBIE

'STARCOR' BRINGS HOME THE BACON

Sets Slowly in 6006-ft. Hole—Drilled 3 Days Later, Core Cut Like "Piece of Solid Formation"



IT is one thing to make good when everything runs smoothly—but it's something else again when the unexpected happens and the breaks go against you. That's when real stuff counts.

'STARCOR' brought home the bacon for Showers and Moncrief on their Stallcup No. 1, when the measuring line kinked after the plug hit the collar. It took a half hour to disconnect the pulley and hook up the elevators to the casing.

Proof of Slow-Setting

The boys in the rig were afraid they could never lift the pipe, because Stallcup No. 1 is a deep well and a hot one. They knew ordinary cement would be thickening fast. It was their first experience with 'STARCOR.'

When they hooked up the elevators, the pipe came away easily—proof that 'STARCOR' is slow-setting at the high temperatures found in these deep holes.

Circulation of 10.3 lb. mud had stopped at 2 a.m., July 13th and 16-lb. 'STARCOR' slurry started down the 6006-foot hole. All cement was in and the mud pumps started at 2:33 a.m. Plug hit collar at 2:55 a.m. So it was a full hour from the time the first 'STARCOR' went in until casing was lifted. That's slow-setting at high temperatures.

Rapid-Hardening, Too

And even though 'STARCOR' sets slowly, they found a core that cut like a piece of solid formation when they drilled out three days later. That's rapid hardening.

Moreover, the core was uniform, free from soft spots, showing freedom from mud contamination. And the oil-gas ratio was 509 to 1, probably the lowest in the field—showing that 'STARCOR' plugs are tight.

Pumps Easily

'STARCOR' is made for oil men to use in deep wells. It is easily pumped in hot holes using 16-lb. slurry. The safety factor against quick setting is built into 'STARCOR' at the plant, you don't have to use a lot of water. Being gel-like, 'STARCOR' resists mud contamination. The core is hard and uniform, free from soft spots. It hardens quickly—you can drill out in three days.

Based on results—on positive proof of performance—experienced oil men are turning to 'STARCOR.'

Try Some 'Starcor'

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Oil News from Foreign Lands

New Refinery in Argentina

A small straightrun distillation plant with maximum capacity of approximately 1,000 bbls. of crude oil daily will be placed in operation before the end of January, 1937, to process production from the Mendoza field in the west central part of Argentina. The refinery is being constructed largely from material on hand by the Yacimientos Petroliferos Fiscales, the government owned and subsidized company which has developed production in the Mendoza district. A fair volume of gasoline and other products are consumed in the territory surrounding Mendoza, an inland point, which at the present and in the past has been supplied by railroad from Atlantic seaboard refineries.

ARGENTINA

Will Drill in Scotland

Midlothian Petroleum Syndicate, organized by C. A. Pogson and E. H. Cunningham-Craig, have obtained an oil prospecting license covering more than 12 square miles in Midlothian County, Scotland. The area obtained under prospecting license surrounds a test hole drilled to 1,820 feet and there abandoned in 1922. The abandoned test had a showing of heavy, black oil at 1,490 feet and one of paraffin base crude at 1,807 feet which produced approximately 50 bbls. by bailing over a period of time. The D'Arcy test, surrounded by the Midlothian Syndicate's newly licensed acreage, was the last of the government sponsored wartime exploratory ventures. At the time the hole was abandoned, pressure for petroleum production had subsided and it was not carried to a depth sufficient to test the projected lower sand bodies. The proposal to test deeper in Scotland where showings were developed in 1922 is all the more interesting in light of the government sponsored movement to discover production on English soil. The Anglo-Iranian Oil Co., Ltd., is now drilling two wildcat tests in England, but the company has encountered no encouraging indications in either prospect so far.

SCOTLAND

Carib Syndicate Ownership

Ownership of a 20 per cent interest in the Colombian Barco concession, now operated jointly by Texas Corp. and Socony-Vacuum Oil Co., Inc., will pass from the Carib Syndicate, Ltd., if stockholders approve a contract between directors of the latter company and private interests. The contract approved by Carib Syndicate directors provides for sale of 20,868 shares of the capital stock of Colombia Petroleum Co. to private interests for $2,000,000. The shares represent Carib's interest, or about 21 per cent, in the Barco concession covering approximately 500,000 acres of land in northeastern Colombia bordering Venezuela.

COLOMBIA

Control of the Barco concession passed from Gulf Oil Corp. to Texas Corp. and Socony-Vacuum last April by Gulf's sale of 79 per cent of Colombia Petroleum Co. stock. Terms were rumored to be in the neighborhood of $10,000,000.

Ultimate expenditure of $50,000,000 is in prospect in meeting terms of the Barco concession revised in 1931 by the Colombian government. The original concession was canceled for lack of development.

Under the new concession, Colombia Petroleum Co. is obligated to build a pipe line to a Colombian port when production reaches 23,000 bbls. daily and a refinery must be built in the country when production amounts to 30,000 bbls. daily.

Due to the remote location of the Barco concession in the interior and the range of mountains dividing it from main arteries of transportation, development has been slow and expensive. Nearly 400 miles of dense jungle and mountains must be transversed by the Colombia Petroleum Co. line if built. Since April, when control of the concession passed into hands of the present owners, several drilling operations have been launched. Gulf Oil Corp. managership previously established existence of commercial production in limited quantities from shallow depths at Rio de Oro and Petrolea.

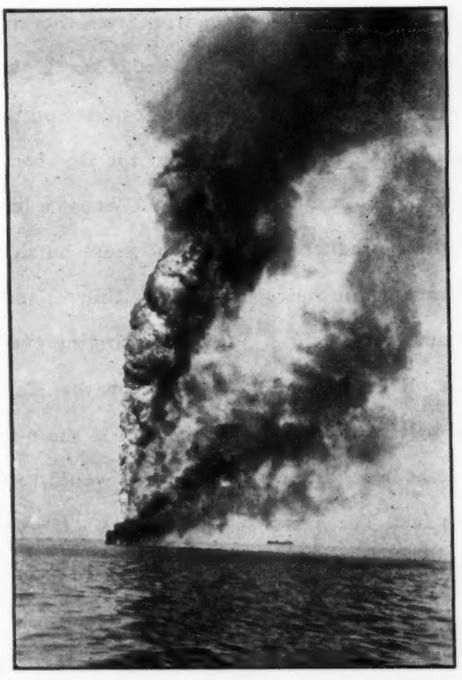
R. Ogarrio, vice president of Texas Corp., in charge of production, and R. F. Baker, chief Texas Corp. geologist for foreign operations, are now making an extensive inspection of the Barco concession.

Identity of the "private interests" contracting for purchase of the Carib Syndicate's stock in Colombia Petroleum Co., was guarded closely by officials. Harold J. Wasson, president of the Carib Syndicate, said directors have "every assurance" the 21 per cent of stock is not intended for delivery to "any oil company."

Combination Sales Program

In an effort to obtain their share of the growing gasoline consumption in England amounting to 7½ to 10 per cent annually, approximately 25 non-integrated marketing concerns have launched a combination program for concerted sales effort. Tentative plans provide for adoption of a standard trade name and brand for their products which will be offered the public in competition with established "name products."

ENGLAND



Burning well in Lake Maracaibo, Venezuela

French Oil Companies Hit

French oil companies have apparently suffered a loss of about 24 per cent in their business margins through devaluation of the franc. The loss to oil companies was brought about by government opposition to increasing prices, devaluation of the franc and a subsequent slight reduction in import duties and other forms of taxation. The franc's devaluation by 25 to 33 per cent was followed by reductions in duties and taxes ranging from 5.90 to 9.24 per cent. The difference between the franc's devaluation and the small decrease of taxes is so far left for the oil companies to absorb. The tax on crude oil is now 134.46 francs per 100 litres, compared to 142.97 francs before devaluation. The gasoline duties, including import and internal taxes, are now 84.46 francs per 100 litres against 92.97 francs before. Kerosene is taxed 70.20 francs per 100 litres compared to 76.35; gas oil and fuel oil are now taxed 57.93 against 63.83 francs and other refined products are subject to 84.94 francs per 100 litres tax against 93.45 francs before devaluation.

FRANCE

So far oil companies have not attempted to recover the difference between devalued currency and the relative slight reductions in taxation through increased prices. However, those operating in France are of the belief that further tax adjustments downward will be necessary or the government must grant permission, or at least permit without objection commensurate increases in prices to the consumer.

Iran Producing More

Although Iran's crude production is being maintained at levels exceeding 1935 output, the country's yield during July shrunk nearly 200,000 bbls. compared to the June output. Crude production during July this year is officially reported at 696,000 tons, or aproximately 4,872,000 bbls., against 723,000 tons and 5,061,000 bbls. for the preceding month. However, compared to July, 1935, the present output is running well ahead of previous standards. Iran produced 607,000 tons or about 4,249,000 bbls. in July, 1935. For the first seven months of this year, Iran produced 4,784,000 tons, or approximately 33,488,000 bbls., compared to 3,691,000 tons or 25,837,000 bbls., through July in 1935.

IRAN

Production from Iran by months so far this year, compared with 1935, is shown in the following table (figures in tons equal to 7 bbls. each):

Month—	1936	1935
January	661,000	630,000
February	640,000	587,000
March	663,000	697,000
April	616,000	584,000
May	768,000	561,000
June	723,000	600,000
July	696,000	607,000
Seven months	4,784,000	3,691,000

Revised Mining Laws

The mining laws of Syria and Lebanon have been revised apparently with the government's motive of stimulating drilling for petroleum production. One of the provisions under which concessions are obtainable is that at least a total of 1,000 meters must be drilled within the first three years of the grant and that only test holes of 200 meters or more are subject to inclusion in the total. The revised provisions of the mining laws became effective in September and were followed by organization and registration of Petroleum Concessions (Syria and Lebanon) Ltd., a subsidiary of Petroleum Concessions, Ltd., which in turn is a subsidiary of Iraq Petroleum Co. It is understood that the Iraq concessions held for some time will be transferred to the new organization.

SYRIA

Among other provisions of the revised law is a requirement forcing concessionaires to make a geological survey showing by map the possible or apparent structural features. In lieu of actual drilling, concessionaires may expend the equivalent in more minute geological surveys. Renewals of concessions may be obtained on proof by the concessionaires that insufficient time has prevented a complete and informative study.

the OIL AND GAS JOURNAL

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Offers a Lesson

Whatever may have been the underlying reasons for the unexpected reduction in the Texas state allowable for November the immediate effect of the Railroad Commission's order has been reassuring to the industry at large as contributing to the stability of the crude price structure.

It dispelled the fear felt in some quarters that a repetition of the action on the October Texas allowable, far exceeding the Bureau of Mines recommendations, might provoke similar increases in allowables in other states, with overproduction endangering the market.

Suggestion that the Texas reduction may have been designed to head off an increase in Oklahoma allowable following the Texas increase on October 1, seems far-fetched in view of the records of both Oklahoma and Kansas in keeping down their production. But it does emphasize the interdependence of the states in maintaining the stability of the industry.

Texas claims a market for more oil than its allowable and seems to fear purchasers will be diverted to Louisiana which will expect an increase in its allowable to meet this additional demand. In fact, Texas has complained that the Bureau of Mines estimates have recognized this enlarged demand in Louisiana at the expense of Texas.

But it must be said for the Bureau of Mines that it can base its estimates only on the facts as it finds them. If Louisiana supplies part of the demand that formerly was supplied by Texas, the bureau cannot transfer the figures to Texas.

The purchasers and the state regulatory agencies are the determining factors. The bureau's authority is limited to recognizing the results and basing its recommendations upon them.

If Texas and Louisiana attempt to supply the same demand and overproduction follows, both will suffer from the unsettlement of their common market. The wholesome general effect of the Texas November order can be contrasted with the forebodings that followed the October order.

There is a lesson in this for all the oil producing states, those outside the interstate compact as well as those within it, and reasoning that should be convincing in bringing every one of them into the agreement.

Now that Texas has shown the way it will be unfortunate if there is any deviation from it. A reversal of policy would be the more disturbing since it would create dread of month to month upheavals and at the most critical season of the year. It should be the combined effort of the units in the industry and the oil producing states to maintain the promising conditions that have now been attained.

More cracked gasoline

More gasoline is now cracked from fuel oil and gas oil than is skimmed from the crude by natural distillation—
OIL AND GAS JOURNAL, October 8, 1936

So today there's more cracked gasoline than straight run

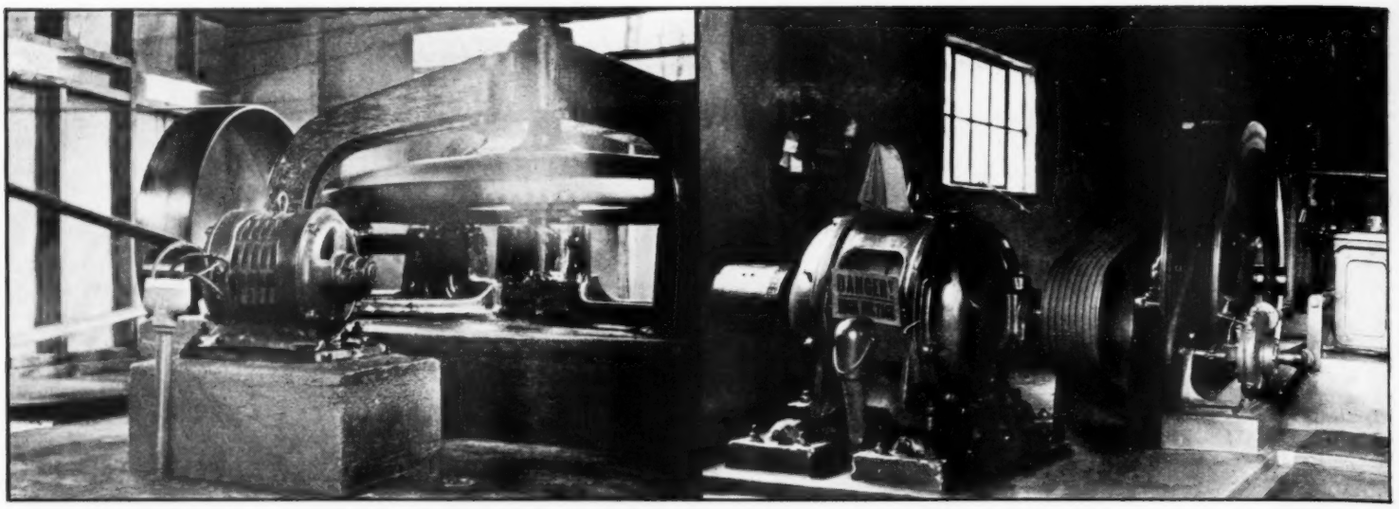
That is why you are fighting a losing battle if you are trying to hold your gallonage with straight-run gasoline

Do you think motorists will buy from you when they can get better gasoline—cracked gasoline—from your competitors?

Dubbscracking is the way to make gasoline that commands the market and commands the price

Universal Oil Products Co
Chicago Illinois

Dubbs Cracking Process
Owner and Licensor



Left: Ten-horsepower electric motor operating a geared power which pumps 13 wells. A jackshaft is used to reduce the speed with the belt drives. Right: Generator driven by compressor engine on a lease operated by National Oil Co.

Intermittent Application of Gas Is Beneficial in Repressuring

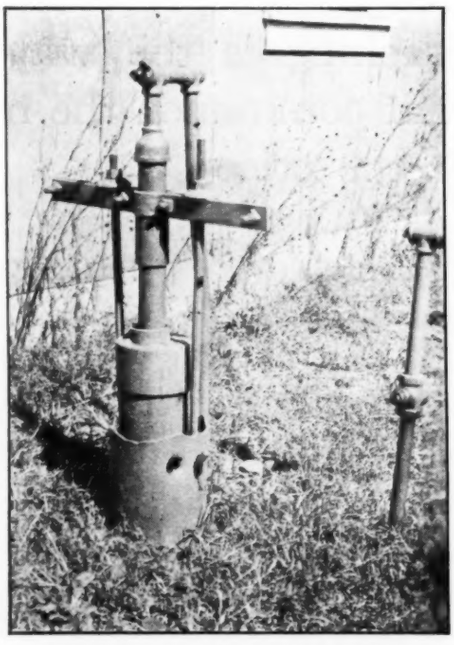
By T. P. SANDERS

Until recently, all operators using repressuring as an aid in the recovery of oil made a diligent effort to keep the input gas or air entering the pay sand at an uninterrupted and fairly uniform rate. The experience of operators in western Pennsylvania now clearly shows that intermittent introduction of the gas or air gives better results, at least during the later stages of a repressuring program. For those who have inaugurated this practice its value has been shown by increased production and smaller input gas volumes.

Little work of a scientific nature has been undertaken to explain the effect of intermittent repressuring, but its general action is believed to be understood, and is explained as follows: In the typical repressuring project, at least during its later stages, there is channeling of gas through the more pervious strata from the input well to producing wells. This volume of gas, large or small, which channels to the producing wells carries little oil with it, since there is little oil in its path. As the repressuring continues this gas increases. Along its path there is, of course, a pressure gradient, the greatest pressure being at the input well and the lowest pressure being at the producing well. The pressure on the oil sand surrounding this channel would be equal to, or slightly less than the pressure of the gas stream adjacent to it. This makes it impossible for very much of the oil from the surrounding sand to enter the path of the gas. If the gas input is discontinued, the pressure along the path of the channeling gas rapidly drops to the pressure at the producing well, due to the permeable nature of this path. With this lowering of pressure, oil is discharged from the surrounding oil sand into the gas path. When gas is again introduced into the input well. its former path through the sand is occupied by oil, of which a large part is then forced to the producing well. Intermittent repressuring is also being used at the beginning of repressuring projects but its value is questionable.

The time cycle during which the gas should be injected and shut off is still a subject for experiment, and the ideal timing probably varies widely under differing conditions. Some operators believe that at each injection enough gas should be used to fill the pore space of the oil sand between the input well and the producing wells, and that the gas should then be shut off until the pressure at the input well reaches its minimum. Input gas has been used for periods as short as 15 minutes, five times daily, and as long as a week with one 8-hour shutdown period, and some success has resulted from each cycle tried.

C. C. Hogg, of the National Oil Co., at Titusville, Pa., who apparently is to be given credit for being the first to appreciate the value of "slugging" in repressuring, undertook to operate one lease whose daily production had declined to 1½ bbls. per day. Gas was channeling badly from the input well to the producing wells, and it was believed that the lease's economic production limit had passed. By using intermittent input of gas the production was increased to 4 bbls. per day, and since less gas was required the lease expenses were reduced. As another example, on a lease having 52 producing wells and six input wells, which had been pressured steadily for some time, a program was adopted of shutting down one input well for 24 hours each week.



Typical gas or air input well in the Venango-Clarion field of western Pennsylvania

The results obtained in the field by "gas slugging" have been obtained in the laboratory with even more convincing data. At Pennsylvania State College, in the core-testing laboratory, tests were made for recovery of dead oil from cores by forcing air through them. It was found that intermittent application of the compressed air recovered as much oil from the core in 16 hours as steady application did in 48 hours. One-third as much air was used in the intermitting test.

The Shamburg Exploration Co. is now installing a new compressing and power generating station on a 50-acre lease 3 miles south of Pleasantville. The station is designed to take advantage of all possible savings resulting from intermittant input of gas or air. A 180-horsepower, twin-cylinder gas engine drives a compressor and an 80-K.W. generator: both by belt drive. It can operate either the compressor or the generator under full load or both together under part load.

The compressor will inject gas, or air if the gas supply is insufficient, into the input wells on an intermitting program. There are only eight input wells on the lease, but more will be drilled. The program to be used has not been definitely decided upon, but probably the input wells will be divided into two classes, one class requiring higher injection pressure than the other. These high-pressure wells will be injected at night, when the pumping wells are shut down and the engine is not required to drive the generator. In the daytime, when the generator is being driven, the input wells requiring lower pressure can be supplied with gas or air without overloading the engine.

Corrosion of Tubing in the Oil Industry

By N. W. MITCHELL
Research Engineer, Chase Brass & Copper Co.

It has been estimated that there are approximately 37,500 shell and tube units now in operation in the oil industry. This includes condensers, reboilers, coolers, and heat exchangers of all kinds. Estimating 50 tubes per unit and 8 feet an average tube length, makes a figure of about 16,000,000 pounds of condenser tubes now in service in the industry. The most reliable reports give an average tube life of two years, which means that the oil refiner must buy about 8,000,000 pounds of tubing, costing roughly $1,000,000 annually.

The alloys used at present for tubing are plain carbon steel, stainless steel, 4-6 per cent chromium plus 0.5 per cent molybdenum steel, plain carbon steel plus 0.5 per cent molybdenum, and Admiralty. The tubing now used in the oil industry is estimated as 50 per cent ferrous and 50 per cent nonferrous. The bulk of the nonferrous tubing is Admiralty. Other alloys are being tried in an effort to increase the short tube life and the problem becomes one of obtaining the longest life per dollar of tube cost.

The history of condenser tubing, aside from its use in oil refining, is interesting. Copper was the first material which was used for condenser tubing, the first tubes being made with a welded or brazed longitudinal seam. The development of seamless drawn condenser tubes was a significant step forward in condenser tube practice. One of the first articles describing seamless condenser tubes for marine work appeared in 1859. . . .

REFINERY INSTALLATIONS

Last fall and in the spring of this year I had an opportunity to visit many refineries in the Mid-Continent and in the East Texas oil fields and to make a detailed first-hand study of tube behavior under the corrosive conditions existing. Examination was made of 63 separate cases where tubing had corroded. Thirty-eight of these 63 units were using Admiralty tubes and out of these 38 units with Admiralty tubes the cause of corrosion in 14 cases was definitely dezincification. The cause for failure in 12 other cases was attack from the vapor side of the tube by sulfur compounds or by acids in the oil vapors. The remaining Admiralty installations were either still in service or it was not possible definitely to determine the form of corrosion. A few Admiralty tubes in one unit had failed by stress corrosion. In addition to Admiralty, other alloys were found to be used and units were studied containing steel tubes and other special alloy tubes. For cracking equipment tubes must be resistant to corrosion by hydrogen sulfide and hydrogen chloride, must have good tensile strength at elevated temperatures, and must have a low creep rate. The average life of plain carbon steel tubing under cracking conditions (200 to 1,000 pounds per square inch and 700° to 1,150° F.) is about two years. Four to six per cent chromium plus 0.5 per cent molybdenum steel will give longer life, while under conditions where there is little corrosion plain carbon steel containing 0.5 per cent molybdenum gives satisfactory creep strength. The general conclusions reached after study of cases of nonferrous tube corrosion were that, in contact with water, Admiralty usually fails by dezincification from the water side. When no water is present on either side of the tube, corrosion is usually due to the presence of sulfur compounds or hydrochloric acid or other mineral acids in the oil vapors. Corrosion by these constituents is usually more severe on the higher copper content alloys than it is on the alloys with relatively low copper contents. Thus there are seen to be two distinctly different corrosive conditions with which condenser and heat exchanger tubes are in contact. The first is corrosive water, the second is corrosive sulfurous or acidic oil vapors, and alloys resisting one condition fairly satisfactorily may not necessarily resist the other. Let us first consider corrosion by water.

TYPES OF WATER

Water supplies used in the refinery may be classified according to five chemical characteristics:

The first is primary salinity, which is the property imparted to a water by alkali salts of the strong acids. Primary salinity is usually made up of sodium and potassium chlorides and sulfates. In most of the oil fields the primary salinity of the water is due principally to sodium chloride.

W.P.R.A. **— Presented before technical session at Fort Worth, Oct. 27**

Secondary salinity is the property imparted to a water by the calcium and magnesium salts of the strong acids. The secondary salinity of oil field waters is usually due to the chlorides of calcium and magnesium.

Tertiary salinity is the property imparted to a water by free acids. Tertiary salinity is rarely found in nature except in certain mine waters. It does not require consideration in the present problem.

Primary alkalinity is that property of a water imparted by alkali salts of the weak acids. In the oil fields the primary alkalinity is usually due to sodium bicarbonate.

Secondary alkalinity is the property imparted to a water by the alkaline earth salts of the weak acids. It is made up of calcium and magnesium carbonates and bicarbonates.

Corrosive waters are characterized in general by a large percentage of primary salinity or secondary salinity. Primary alkalinity of a water tends to retard corrosion, while secondary alkalinity results in the formation of scale on heating. The secondary alkalinity of a water is identical with the temporary or carbonate hardness of the water. The secondary salinity of a water is identical with the permanent or noncarbonate hardness.

In general, corrosive waters have a high total concentration of dissolved constituents. It also may be stated in general that the water supplies in the oil fields in this territory are corrosive due principally to high salt concentration composed largely of secondary salinity.

There are several types of corrosion which may occur with metals in water solution. The tendency always exists for corrosion to occur, but the corrosive character of the water determines the rate and the form for any given metal. In refinery work we are concerned principally with galvanic corrosion, deposit attack, and in the case of yellow brass with dezincification.

GALVANIC ACTION

Every metal exhibits a definite behavior with regard to solutions with which it comes in contact. Certain metals when placed in normal solutions of their salts have a greater tendency to go into solution than for their ions to deposit upon the metal. Such metals become negatively charged because some atoms of the metal give up electrons and pass into solution as positive ions. The electrons given up remain on the metal and charge it negatively while the solution becomes positively charged due to an excess of positively charged ions. When certain other metals are placed in normal solutions of their salts there is no tendency for the metal to go into solution, but rather for the metallic ions to deposit upon the metal. In this case the metal becomes positively charged and the solution negatively charged.

Metals vary in the magnitude of the charge which they assume, as well as in the sign of this charge. This difference in potential between a metal and a normal solution of its ions is a fixed characteristic of every metal and has been determined or calculated for all the metals. The arrangement of the metals in the order of increasing or decreasing potential difference is well known to us as the electromotive series of the metals.

The electromotive series of the metals is an excellent guide to the normally expected behavior of two metals in contact in an aqueous corroding medium. It must be used, however, with the greatest of care. It must be kept in mind that the single potential given in the electromotive series for each metal is only valid for the normal solution of its own salts. It may be, and usually is, far different for other solutions and for other concentrations of solutions of its own salts. When two different metals are placed in contact in an aqueous solution it is generally true that the metal having the

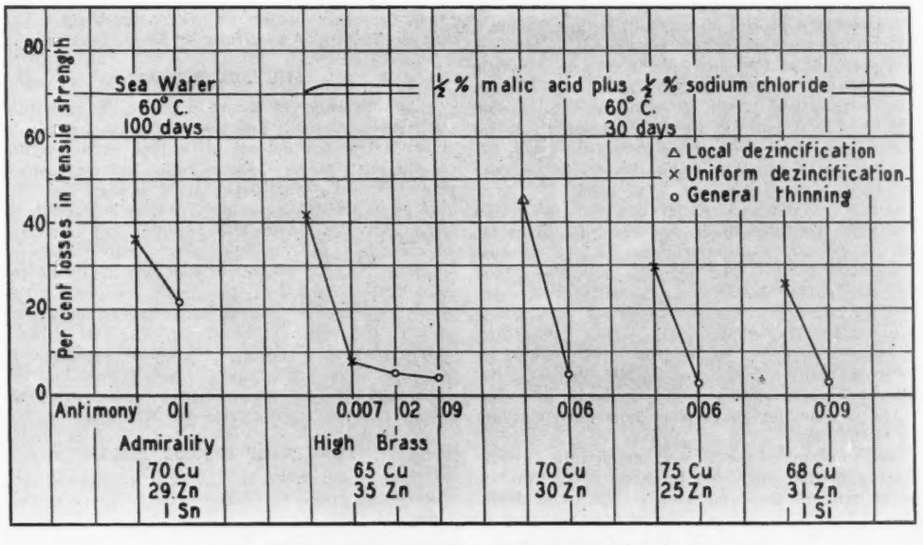


Figure 1—Effect of antimony of he dezincification of yellow brasses

greater solution potential as given in the electromotive series will form the anode of a galvanic cell and go into solution to the protection of the other metal, which becomes the cathode of the cell. Current may be removed from the cell under ideal conditions to the amount of one Faraday of current for every equivalent weight of anode metal which dissolves. Hydrogen is evolved at the cathode and the magnitude of the current and the rate of corrosion are usually limited by the rate of removal of the hydrogen from the cathodic surface. This removal takes place by reaction with oxygen or other depolarizing agent, or by evolution as molecular hydrogen in the form of bubbles.

Film formation on either anode or cathode can readily cause polarization of the cell and stop the flow of current. The formation of a protective film on a metal will cause it to act as though displaced toward the noble end of the electromotive series. The formation of corrosion products and breaking and rebuilding of films will in some cases actually cause the polarity to shift back and forth from one metal to another during the course of corrosion.

Galvanic corrosion is very important in practice and considerable loss has been caused by the failure to avoid placing dissimilar metals in contact in corrosive solutions. One of the classic examples of galvanic corrosion occurred with the $500,000 yacht "Sea Call" built in 1915. The hull of this yacht was made of monel metal with the exception of the stem, keel, sternpost and rudder frame, which were of steel. Both monel metal and iron rivets were used. The vessel had been in service for less than three months when failure of the iron rivets forced it into drydock. Examination of the rest of the hull at this time showed that corrosion of the steel parts was so severe that it was necessary to scrap the entire vessel.

DEPOSIT ATTACK

One type of corrosion which has been noticed to occur in open box condensers is known as deposit attack. It has been shown by laboratory experiments that differential aeration is a primary cause of corrosion by water. Evans has shown that, on a specimen partially immersed in a solution, the metal in contact with the liquid meniscus is cathodic and that the metal below the water line is anodic. In his experiments two similar pieces of metal were immersed in two compartments of a cell divided by a porous partition. Both compartments were filled with half normal potassium chloride solution and the two pieces connected to the terminals of a milliameter. When bubbles of air free from carbon dioxide were passed over one of the metal strips, a current of electricity was set up which registered on the milliameter, the aerated strip being the cathode and the unaerated strip the anode. The unaerated strip or anode dissolved during the experiment.

The important fact which this experiment establishes is that the presence of oxygen alters the potential of a metal, rendering it electropositive to a specimen of the same metal immersed in the same solution in the absence of oxygen. Thus a differential aeration current may be set up between two portions of the same metal to which oxygen is supplied at different rates. Another important point established is the direction of the current, which is provided by the consumption of metal from the unaerated electrode. That is to say, the portions to which oxygen has least ready access are those where corrosion is greatest. The conclusion is at first sight paradoxical, but the action of oxygen is of the direct chemical type, giving at the aerated portions a uniform film having some protective qualities. These parts are thus ennobled and the parts sheltered are relatively electronegative and dissolve by anodic attack of the ions in solution. This explains the water line attack so frequently noted in practice. With solutions like copper sulfate, which creep considerably, the water line area becomes highly cathodic and concentrated corrosion takes place immediately below the water line.

The shielding of portions of the metallic surface from oxygen by corrosion products or by foreign matter renders these portions anodic to adjacent areas richer in oxygen. Corrosion frequently takes place below foreign matter such as stones, shells, or scale resting on the surface of condenser tubes. Deposit attack has been noticed to take place to a considerable extent in open box condensers due to the formation of scale on the outside of the tubes. Prevention of the scale formation has in at least one case very considerably decreased the rate of attack of the tubes.

An important type of corrosion which occurs with some brass alloys in contact with water is known as selective solution. This form of attack results in the solution of one constituent of an alloy, leaving the remainder of the alloy comparatively unattacked. In the case of yellow brasses, selective solution results in the removal of the zinc from the alloy, leaving porous masses or layers of copper in the tube wall. The present consensus of opinion regarding dezincification is that the zinc and copper go into solution together, the copper being subsequently redeposited on the metal in the form of a porous mass or a porous layer. Dezincification is a common cause of the failure of Admiralty tubes.

Dezincification takes place in many types of water and may occur in those which are alkaline as well as those which are acid. This type of attack occurs more rapidly the higher the temperature of the solution. Also the tendency is for local rather than uniform dezincification with increase in temperature.

Dezincification occurs readily in corrosive waters with alloys of the copper-zinc series which contain less than about 80 per cent of copper. Those containing more copper are nearly immune to dezincification. Red brass, containing 85 per cent copper and the balance zinc, is recommended in place of Admiralty for those conditions where Admiralty fails by dezincification. Experience has shown that red brass has much better resistance to dezincification than Admiralty and many cases in the oil refinery are on record where red brass has given longer life than Admiralty under conditions where the latter has failed by dezincification. Red brass has been used in the plumbing field to overcome dezincification of yellow brass alloys and at the present time we have never experienced a failure of red brass in domestic plumbing service. Red brass has also been entirely satisfactory in power plant work where it is used under corrosive water conditions which cause premature failure of Admiralty by dezincification. . . .

STRESS-CORROSION

Another cause of failure of heat exchanger tubes is stress-corrosion. This form of corrosion results from a combination of stress plus corrosion and in the early days of the refining industry considerable trouble was experienced because of this. Stress in the tubing seldom results now from internal stresses set up in manufacturing. External stresses have largely been overcome by proper design of the heat exchanger unit, especially by the use of floating heads. Isolated tubes occasionally do fail by stress-corrosion, particularly in the presence of compounds of ammonia. The yellow brass alloys such as Admiralty are quite susceptible to stress-corrosion under proper conditions, but red brass and alloys of higher copper content are practically immune to this form of corrosion.

RESULTS OF SERVICE TESTS

Some time ago we installed two bundles of condenser tubes in two of the large refineries. One bundle contained 18 alloys and the other 16 different alloys. Both of the bundles were used under conditions where corrosive water was inside the tubing at a temperature of about 150° F. Oil vapors were outside the tubing in each case. Corrosion of both bundles was mainly from the water side and took the form of dezincification with the yellow brass alloys. The following table shows the results which were obtained in these tests:

RESULTS ACTUAL SERVICE TESTS IN TWO REFINERIES

Corrosive Water Inside—Oil Vapors Outside Tubes

Aluminum bronze (92 Cu, 8 Al)	Pitted both water and vapor side
Aluminum brass (80 Cu, 19 Zn, 1 Al)	Suffered local dezincification
Aluminum brass (70 Cu, 29 Zn, 1 Al)	Suffered local dezincification
Naval brass (60 Cu, 0.75 Sn, 39.25 Zn)	Suffered local dezincification
High brass (67 Cu, 0.5 Pb, 32.5 Zn)	Suffered local dezincification
Arsenical high brass (67 Cu, 0.5 Pb, 0.1 As, 32.4 Zn)	Excellent condition
Admiralty (70 Cu, 1 Sn, 29 Zn, grain size 0.012 mm)	Suffered local dezincification
Admiralty (Grain size 0.025 mm)	Suffered local dezincification
Admiralty (Grain size 0.060 mm)	Suffered local dezincification
Admiralty (Grain size 0.100 mm)	Suffered local dezincification
Oxidized Admiralty (Grain size 0.025 mm)	Suffered local dezincification
Bright Admiralty with bad surface	Suffered local dezincification
Red brass (85 Cu, 15 Zn)	Excellent condition
Special (95 Cu, 1 Mn, 4 Zn)	Thinned from vapor side
98-2 Cupro nickel (98 Cu, 2 Ni)	Failed by thinning from vapor side
80-20 Cupro nickel (80 Cu, 20 Ni)	Excellent condition
70-30 Cupro nickel (70 Cu, 30 Ni)	Excellent condition
Hard brass (80 Cu, 0.1 Fe, 0.5 Si, 19.4 Zn)	Suffered local dezincification
Hard brass (70 Cu, 0.1 Fe, 0.5 Si, 29.4 Zn)	Suffered local dezincification

It will be noted that the alloys which suffered practically no corrosion are red brass, the cupro nickel alloys, and arsenical high brass. Corrosion of the yellow brass alloys, including Admiralty, was by plug type dezincification from the water side. It is interesting to note that the high copper content alloys used were the only ones to suffer appreciable corrosion from the vapor side. The 98 per cent copper-nickel alloy failed rapidly by thinning caused by attack of the oil vapors outside the tubes. The tests were carried out for periods of two years.

EFFECT OF ANTIMONY

In connection with the favorable showing of arsenical yellow brass under actual conditions, laboratory tests have shown that the presence of small amounts of arsenic in yellow brass definitely prevents dezincification. At the same time, however, the presence of arsenic increases the susceptibility of the alloy to stress corrosion cracking. In fact, several tubes of arsenical high brass, installed as the result of the tests made, failed prematurely by stress-corrosion cracking. It has since been found that antimony prevents dezincification in very much the same manner as arsenic, but that the presence of antimony does not lead to stress-corrosion cracking. The following table shows the effect of additions of antimony to yellow brass alloys.

EFFECT OF ANTIMONY ON TYPE AND DEGREE OF CORROSION OF BRASS

Copper content %	Antimony content %	Pct. of original tensile strength lost by corrosion	Pct. of original elongation lost by corrosion	Type of attack—
65	.....	42	68	Layer type dezincification
65	0.007	8	19	Layer type dezincification
65	0.02	5	15	General thinning
65	0.09	4	6	General thinning
70	.....	45	77	Plug type dezincification
70	0.06	5	9	General thinning
75	.....	30	62	Layer type dezincification
75	0.06	2	3	General thinning

It will be noted that amounts of antimony as small as 0.007 per cent retard the corrosion of yellow brass and the addition of 0.22 per cent of antimony prevents dezincification under the conditions of the test.

Chart 1 shows the results in graphic form obtained from tests of yellow brass alloys containing small amounts of antimony and arsenic. It will again be noted that the presence of antimony retards dezincification and diminishes the corrosion suffered by the alloys tested. Arsenic is also effective in retarding dezincification, but its presence leads to the equally undesirable intercrystalline form of corrosion.

Taking up the problem now of corrosion by oil vapors, the data available are much less than in the case of water.

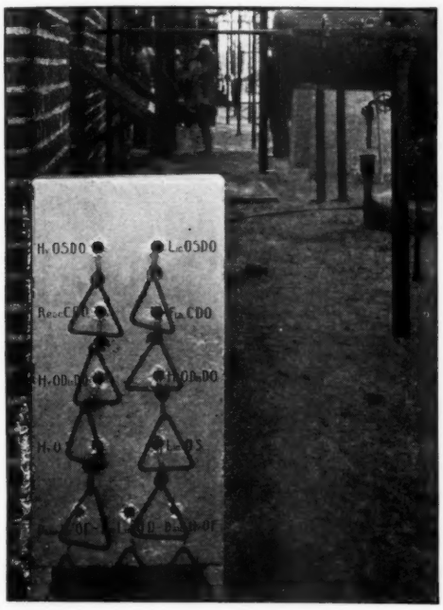
Sulfur in one or more of many forms is very frequently present in many crude oils and is very corrosive to most metals coming in contact with it. Hydrogen sulfide and those sulfur compounds

(Continued on Page 47)

OPERATING IDEAS

Centralized Blowdown Control

To provide more adequate protection against fires and explosions, one refining company has centralized the controls of the blowdown lines for the tube still and cracking unit recently completed in its Wichita, Kans., refinery. Steel cables are wound around the valve-wheel pulleys at all points where it is desirable, in case of fire, to empty the charge into the blowdown pit, being wound a sufficient number of revolutions to completely open the valve with one pull. The cables are then led, through conduits, to the centrally-located control board. Here handles are attached to the ends of the cables and the name of the particular valve controlled by each cable lettered at the cable outlet. Thus if it is desirable to open any of the valves, for instance, the one emptying the charge from the reaction chamber, the stillman pulls the cable marked "Reac. C. D. O." This installation is used only in case a fire should break out or an explosion occur.



Suspend Tanks from Rack to Facilitate Loading

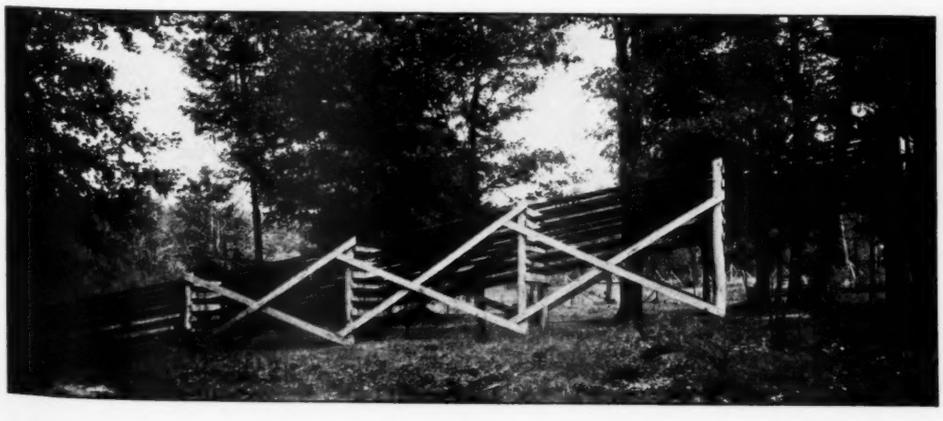
Often it is necessary to haul water, gasoline, waste oil for roads, or other liquids on lease trucks. Since the trucks must also be used for many other purposes, and loading the tanks is difficult work, a western Pennsylvania operator has built the rack shown here from which the tanks are suspended when not in use. Two hoists are provided for removing the tanks from the trucks, the hoists being replaced by chains if the tank is to remain suspended for some time, otherwise the hoist is left in place so that the tank may be quickly lowered.

Pumping Unit Power Take-Off

The installation shown in the accompanying photograph was designed by one large operator in the Chase, Kansas, field to pump the water well shown in the background. It consists of a simple power take-off from a geared pumping unit, using a rod and tubing crownblock and sheave bolted to the pumping-unit foundation in line with the water-well jack. A wire line is used instead of pullrods and by moving the eyebolt to a different hole in the beam, the length of the stroke can be controlled. Since this is a flexible take-off, it can be lined-up at different angles by the installation of a swing.

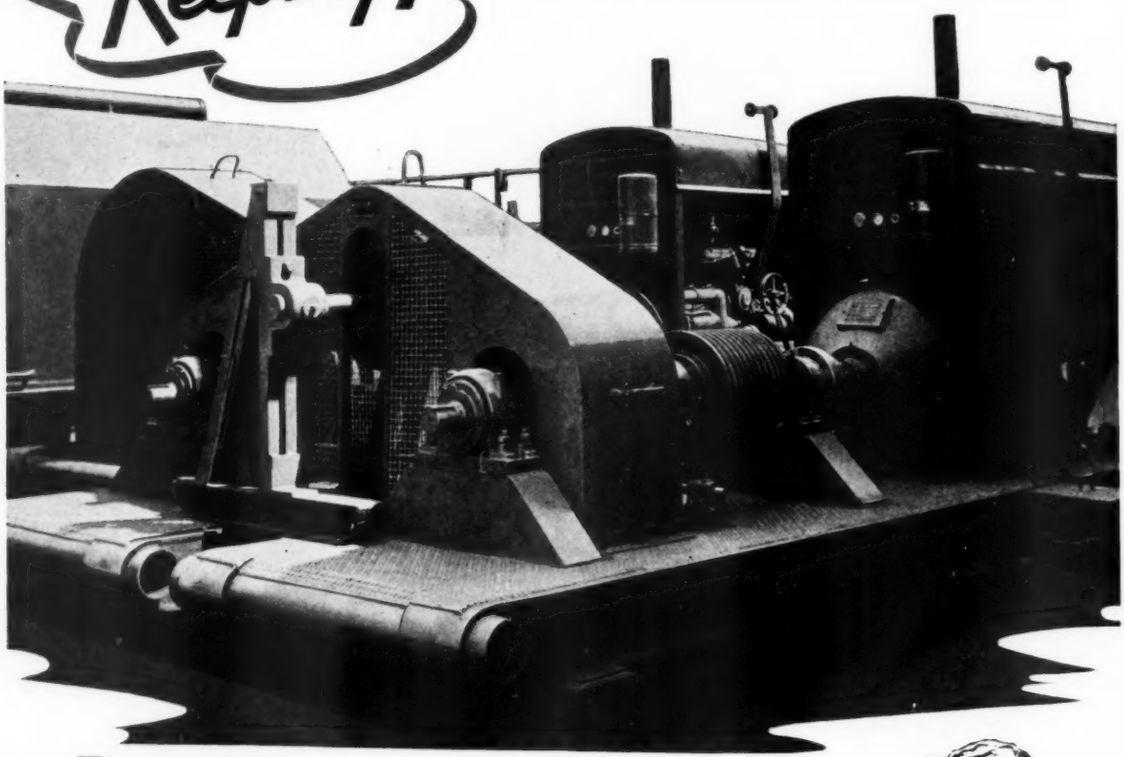
Coil for Removing Water From Repressuring Gas

In the vicinity of Titusville, Pa., where extensive air and gas repressuring operations are in progress, one company has installed the coil shown in the accompanying photograph to remove moisture from the repressuring gas. The coils are made of 2-inch pipe, supported at an angle by a wood structure. Moisture in the gas going through this installation condenses and gravitates to the lower end of coil where it is removed from the system through a drain.



Keeping Pace

WITH IMPROVED FIELD PRACTICES and ENGINEERING DEVELOPMENTS



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MODEL TD-225

Designed for maximum normal drilling to depths of 7-500-feet. Powered with two (2) Model LSU Waukesha Gas - Gasoline - Butane 6-cylinder, 7-in. bore by 8½-in. stroke power units delivering 240 h. p. each at 1050 RPM, together with 36-in. Portable Rig Company Reverse Clutch. Maximum pump size for this model is 7¾-in. x 16-in.

MODEL TD-140

Designed for maximum normal drilling to depths of 5-000-feet. Powered with two (2) Model WOKU Waukesha Gas - Gasoline - Butane 4-cylinder, 7½-in. bore by 8-in. stroke power units delivering 140 h. p. each at 1050 RPM, together with 36-in. Portable Rig Company Reverse Clutch. Maximum pump size for this model is 7¼-in. x 14-in.

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Corrosion of Tubing in the Oil Industry

(Continued from Page 44)

which react in such a way as to form directly the sulfide of the metal are especially corrosive to copper alloys. Corrosion by sulfur compounds usually takes the form of shallow or deep pitting accompanied by the formation of a heavy sulfide scale. This scale is not protective to the metal. Aluminum is one of the few commercial metals which is resistant to sulfur compounds, but unfortunately aluminum is not desirable in other respects for use as a condenser tube. With copper alloys it appears to be a fact that the higher the copper content, the less the resistance to sulfur compounds in general. The addition of aluminum in small amounts to copper alloys appears to be favorable from the standpoint of resistance to sulfur. Those aluminum alloys which have been tried in the refinery have contained a copper content so high that it offset the beneficial effect of the aluminum.

Corrosion testing of metals against sulfur in its various forms has been carried out only in a very preliminary way. We have conducted tests of various copper alloys in molten sulfur, in a chloroform solution of sulfur, and with various concentrations of hydrogen sulfide in gasoline vapor at 450° F. This table shows the results which were obtained. It will be noted that the high copper content alloys are most susceptible to attack by sulfur. Definite indications with regard to the other alloys are not yet available. Further testing will be carried on, attempting to simulate actual service conditions and it is felt that worthwhile results will eventually be obtained.

RESULTS OF SOME TESTS WITH SULFUR

Per Cent Losses in Tensil Strength

	Sulfur in chloroform 21 da., 70°F.	Molten sulfur 4 hrs., 275°F.	5% Hydrogen Sulfide in gasoline 35 da., 450°F
Copper	42.	94.	2.
Silicon bronze (96 Cu, 3 Si, 1 Zn)	19.	5.	7.
Red brass (85 Cu, 15 Zn)	3.	0.	0.
Admiralty (70 Cu, 29 Zn, 1 Sn)	1.	2.	0.
Aluminum bronze (92 Cu, 8 Al)	1.	1.	1.
Nickel silver (75 Cu, 20 Ni, 5 Zn)	0.	1.	1.
Low brass (80 Cu, 20 Zn)	3.	0.	1.
Aluminum brass (76 Cu, 2 Al, 22 Zn)	2.	3.	1.
Ad aluminum (82 Cu, 2 Al, 1 Sn, 17 Zn)	0.	1.	1.
Muntz metal (60 Cu, 40 Zn)	2.	1.	..
Aluminum brass (70 Cu, 29 Zn, 1 Al)	0.	0.	..

RESISTANCE TO BOTH WATER AND SULFUR

At the present time low copper content aluminum-bearing alloys are being tried for resistance to sulfur, it being kept in mind that a low copper content renders the alloy susceptible to selective attack from the action of water. Admiralty containing sufficient antimony to prevent dezincification also has distinct possibilities. The resistance to sulfur of this alloy should be equal to that of Admiralty, but its resistance to water very much better. The cost should not be greatly above that of Admiralty.

In view of the fact that high copper content alloys are advantageous for resistance to water, and low copper content alloys for resistance to sulfur compounds, we have developed duplex tubes consisting, for instance, of commercial bronze (90 per cent copper, 10 per cent zinc) on one side and Admiralty on the other side. The tube may be made either way, with Admiralty inside and commercial bronze outside, and vice versa. We are installing groups of these tubes in a few places where the conditions are suitable and where the behavior of the tubes may be followed. We expect that there will be difficulties to overcome in the use of these tubes. It may be desirable to add antimony to the Admiralty to retard the dezincification which frequently takes place due to steam or water vapor in the oil vapor. Differential expansion may be a problem, but in general the idea appears very promising. We do not know accurately our mill costs to produce this tube, but it is likely that the price will be not greatly above that of Admiralty. We expect to have service records for this duplex tube within the next few months and shall wait for these before we promote the tube extensively.

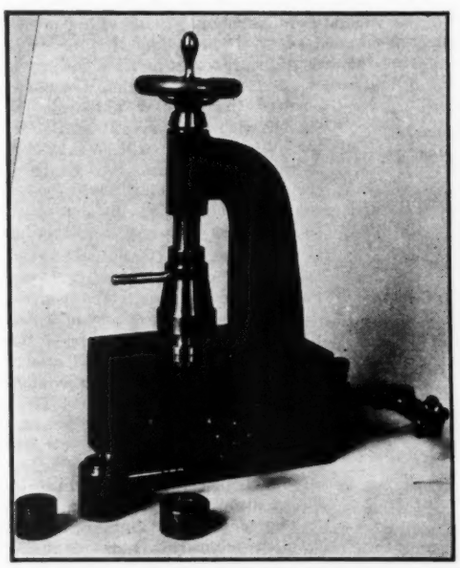
Improved Equipment for Core Analysis Used at Penn State

By T. P. SANDERS

The analysis of cores for porosity, permeability, and per cent of saturation are time consuming tasks, and most laboratory workers who have spent much time at this work have contributed in some respect toward simplifying and reducing the time required for the tests. Because of the great number of core analyses which have been made at the Pennsylvania State College, we find the technique and the equipment used in these tests incorporating many improvements not found in smaller laboratories. The search for further improvements is constantly carried on in conjunction with the tests. Under a plan for industrial research inaugurated by the state, two groups of workers are occupied at the college on research problems which call for an almost unlimited number of core tests. For the Bradford Producers Association, Dr. S. T. Yuster, with the assistance of two graduates and an undergraduate, carry on research pertaining to water-flooding. Work concerning air and gas drive is done for the Pennsylvania Grade Crude Oil Association by Dr. G. T. Hassler and his associate, Dr. H. M. Krutter, assisted by two students.

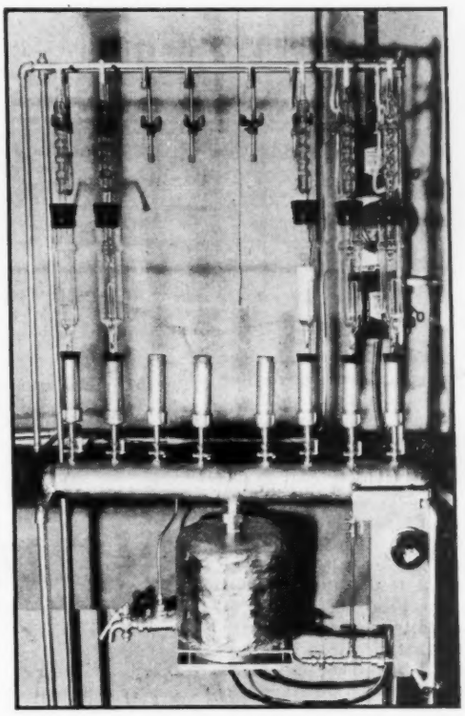
In cutting test samples from the cores obtained from the field the diamond drill is no longer used at this institution. In its place a short piece of thin-walled soft steel tubing is clamped in position in the drill press. The cutting is done by crucible steel crushed to the size of common table salt. The crushed steel is introduced with water to the face of the plain-ended tubing as it is rotated against the core. It is reported that in this way a sample is cut from the average sandstone core in about 10 minutes. Hard steel tubing was tried without success, since it seems that the cutting is made possible by the fact that the hard crushed steel tends to inbed itself in the soft steel tubing. Usually three-quarters inch tubing is used.

For accurate determinations of permeabilities the cutting of the sample to the required length is important. A 1-inch length is most often used. The ends of this should be somewhere near square, but they should not be ground. A cutter has been put into use whereby tool-steel cutting edges are clamped against the core almost completely around its circumference. A guide keeps the core in proper alignment while the clamping action cuts it. This device also cuts the sample to the standard length without necessitating measurement.



Apparatus used in making tests for permeability. The core is clamped in place in a rubber sleeve and air or gas is passed through

A novel arrangement is used in connection with the soxholete extractors for washing cores with naphtha in the determination of saturation. A large closed pot of naphtha is heated indirectly

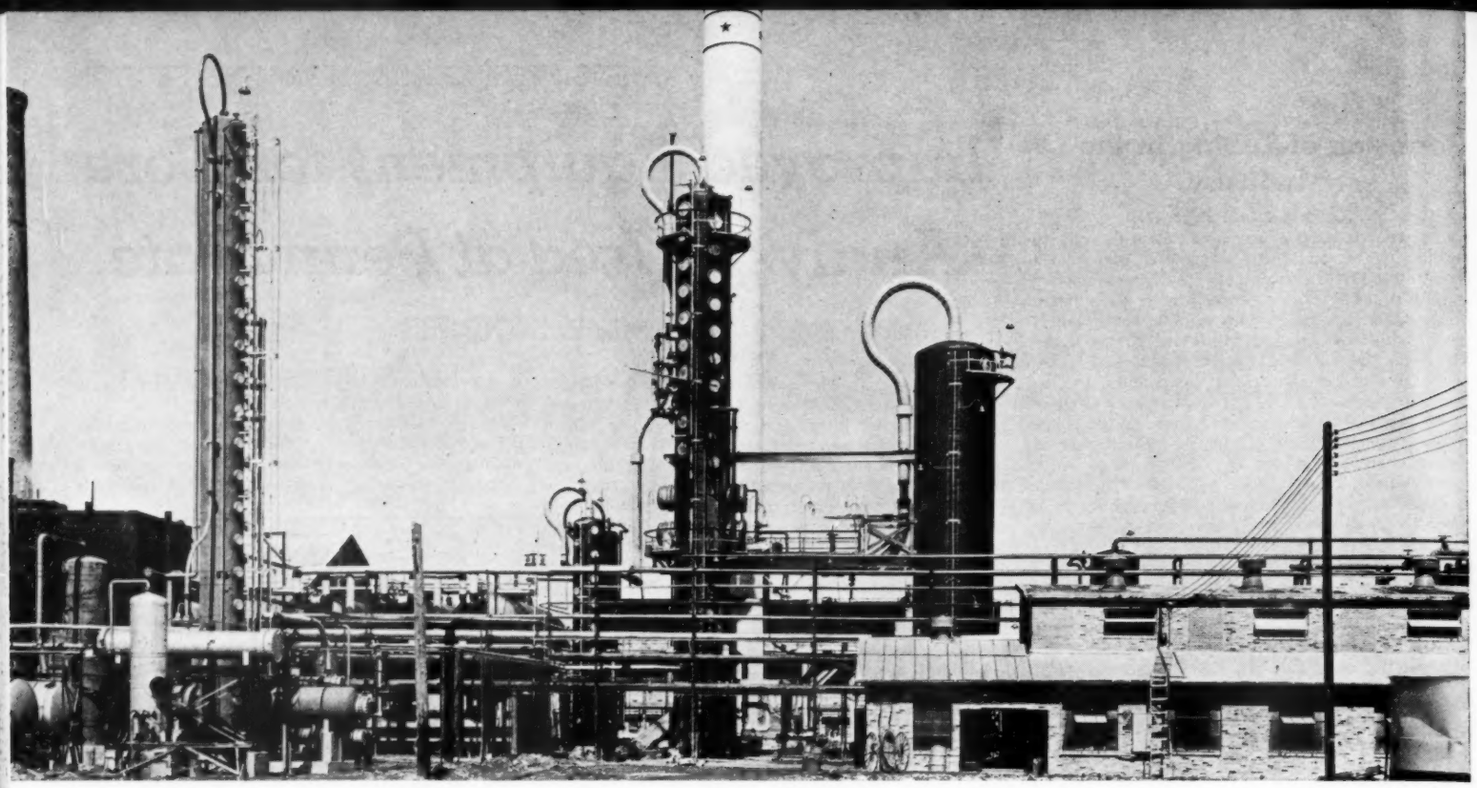


Equipment used in determining saturation of cores. Naphtha is heated in the pot and the condensed vapors wash the core samples

by an electric heater. As the naphtha goes into the vapor phase it rises to the top of the apparatus where it condenses, the condensate dropping into the tube where the core sample has been placed. When the naphtha in this tube rises to a level submerging the sample, a siphon removes the naphtha from the tube with the crude oil which it has dissolved from the sample. Clean condensate again begins to cover the sample. After being siphoned from the tube the naphtha is returned to the heating pot. The dissolved crude oil remains in this pot, since its boiling point is higher than that of the naphtha, and the temperature is not allowed to reach that point. Thus, this apparatus causes an automatic, continuous washing action, always supplying clean, hot naphtha to the tube containing the sample, and requiring little attention.

Many designs have been used for the equipment employed in permeability tests. While the method has not as yet been changed, the equipment has been greatly improved, so that the preparation for the test now takes less time. The apparatus is compact, with a minimum of parts. The core sample is quickly clamped into place with a tight-fitting rubber sleeve around it. Air or gas under a regulated pressure is applied and the quantity is measured after passing through the sample. Further improvements for permeability tests are being attempted, but as yet no success has resulted. Work has commenced on a new instrument for permeability measurements, the principle of which is analogous to the Wheatstone bridge of the electrical field. It is proposed to measure the resistance to flow of a sample by direct comparison with a core of known permeability.

THE UNIVERSITY OF PENNSYLVANIA



One of the largest tube stills on Gulf Coast is installed in the new cracking unit, being designed to allow variable conditions in heating and cracking the charge

New Southport Cracking Unit Features Operating Flexibility

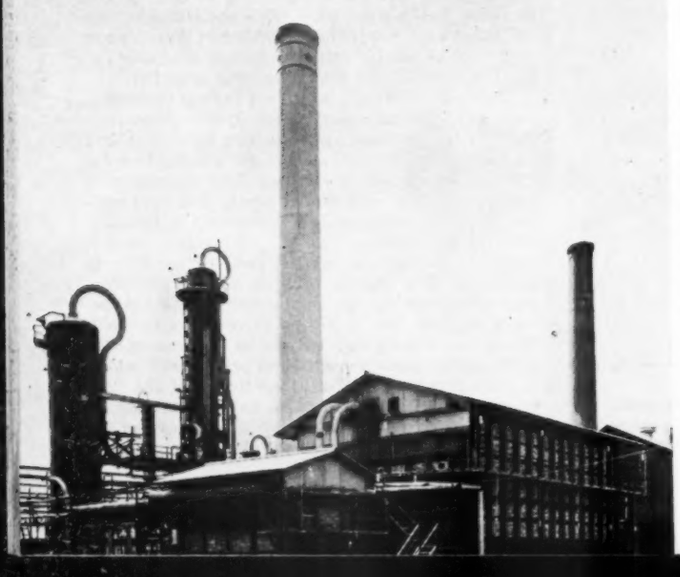
By GEORGE WEBER

Facilities providing for the manufacture of regular and special grades of high-octane gasoline, naphthas, furnace oils and fuel oils to be marketed in the eastern states have been added to the Texas City refinery of the Southport Petroleum Co. A modern cracking unit combining unusual flezibility and close control of operation was recently placed on stream at that plant. Installation of the new unit marks an important step in the expansion program of the company, which also operates a 3,300-bbl. skimming and cracking plant at Kilgore in the East Texas field.

The new cracking unit has a capacity of 10,000 bbls. per day. It embodies the most modern features provided under Donnelly patents and licensed from the Gasoline Products Co. Construction of the plant which was designed by the Mid-Continent Engineering Co. of Dallas was completed approximately a month ago, and the unit has been in continuous operation since it was first placed on stream. During the initial period of operation, it has been subjected to a number of trial runs.

One of the largest tube furnaces to be installed on the Gulf Coast handles the greater share of stock in the new unit. In addition a second furnace, a flash chamber and four bubble towers including a stabilizer provide the necessary facilities for the variable cracking and fractionating operations demanded of it. The Donnelly process of cracking requires high pressures and temperatures. Accordingly all welded equipment which was incorporated in the new unit was designed with a generous safety factor. Vessels which will be subjected to the high pressures and temperatures of the cracking process were thoroughly annealed upon fabrication previous to X-ray examination.

The new 10,000-bbl. Donnelly cracking unit of the Southport Petroleum Co., at Texas City, Tex., capable of refining a wide range of special products



Considerable flexibility arises from the design of the furnaces. Parallel flow through the convection and radient sections of tubes allows the proper processing of the many types of fractions and crudes which will be charged to the unit. Close control of the several fractionation steps allows the production of a large variety of closely cut fractions, and provides the necessary facilities for manufacture of specification products.

The additional markets to be supplied from this new plant lie in the states east of the Mississippi River. Between that area and the refinery at Texas City, Southport maintains a 225,000-bbl. tank farm and deep-water terminal at New Orleans, La., with a loading capacity of 2,000 bbls. per hour. The terminal, strategically located on the Mississippi River, is employed as a distribution point for the products of the refinery, serving by tank-car and river barge the bulk and blending stations of customers in the North and East.

Unusually favorable water shipping facilities were a deciding factor in locating the refinery at Texas City. At that point, storage exceeding 1,000,000 bbls. and loading equipment with a total capacity of 5,000 bbls. per hour is available for handling the company's products. The supply of crude oil moves to Texas City by pipe line, barge and tanker from fields of the Gulf Coast and Southwest Texas. Pipe lines bring much of the charging stock from local fields.

A major portion of the finished products of the refinery including the high-octane unleaded gasolines in which the company specializes, are moved to the New Orleans terminal by tanker, and from there are distributed directly to consumption points through company facilities. The flexibility afforded this method of handling its products is in accord with the company's policy of filling special orders for gasoline and naphthas.

The principal products to be refined at the Texas City plant include 70-72 octane cracked gasoline, special aviation and motor gasolines, naphthas, kerosene, two grades of furnace oil, fuel oil and Bunker C fuel oil. In refining the No. 2 and No. 4 furnace oils, the practice of taking an overhead crude cut averaging 70 per cent produces remarkably low viscosity burning-oils.

Productivity Index

By M. L. HAIDER
Carter Oil Co., Tulsa

MUCH has been said and written in the past on the shortcomings of the open flow and restricted potentials of oil wells to determine their relative ability to produce. The oil industry in general is quite agreed that the open flow potential in particular is grossly inequitable, wasteful and expensive. In spite of this, it still continues to be used in many pools. This is due partly to the fact that no thoroughly satisfactory substitute has been found, and partly to the reluctance of operators to adopt various other methods which have been suggested.

In a great many pools the use of open flow potential has been discontinued and tubing potentials substituted. However, open flow potentials through casing are still being used in many pools, particularly in Oklahoma. The expense of such open flow potentials has been pointed out many times but I wish to cite one illustration here to show that the oil industry still continues with this wasteful, expensive method: In one of the newest pools in Oklahoma it is the practice to take open flow potentials through the casing with the tubing out of the hole. The well is usually tubed after it is drilled in for the purpose of washing it in and cleaning the hole. After preliminary tests are run the tubing is pulled under pressure preparatory to taking the potential. After the potential is taken the tubing is again rerun, under pressure. In order to accommodate the large capacity of the wells it is customary to set three separators, six vent lines and large oil storage tanks. It is conservatively estimated that the equipment which is not needed for producing the well currently but which is installed solely for the purpose of establishing large potentials, costs the operator at least $5,000 per well. This is approximately 35 per cent of the cost of equipping a well for production. Such needless expenditure constitutes an economic waste in addition to the gas which is wasted in taking potentials.

A method of measuring the relative ability of wells to produce without open flow, which has been suggested, and which shows considerable promise, is the "productivity index." This method was first suggested by T. V. Moore[1], and has been strongly advocated by many engineers and producers. The method involves measurement of the static, or shut-in bottom-hole pressure, and the bottom-hole pressure while the well is flowing.

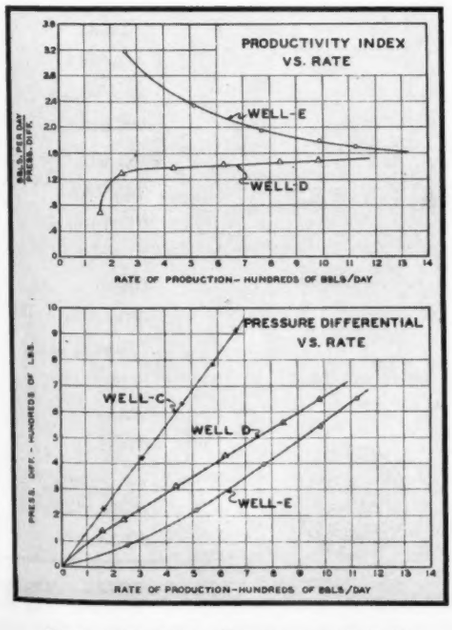


Fig. 2—Plot of data obtained on wells in the Keokuk and Lucien pools

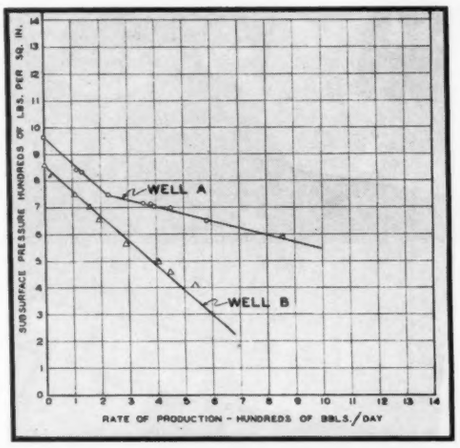


Fig. 1—Pressure vs. rate curves on wells in the South Burbank pool

The productivity index is defined as the barrels of oil per day per pound differential between static and flowing bottom-hole pressure. In determining the index of a well the well is produced at low rates of production, thus eliminating gas wastage, the possibility of water coning, and unnecessary oversize expensive equipment required for open flow potentials. Obtaining the productivity index involves measurement of the pressure differential at the sand face, which measures only the resistance of the sand or producing formation to yield oil, and does not take into account the resistance of the flow string. It therefore reflects the true relative ability of the well to produce. It is a well known fact that in taking the open flow potentials of large wells, the size of the casing is a big factor in determining the potential obtained. The reservoir conditions of two wells may be such that in both wells the reservoir has the same relative ability to yield oil, still, if one of the wells has larger casing than the other, it will obtain a larger potential.

A.I.M.E.—Paper delivered before the Petroleum Division of A.I.M.E., Fort Worth, Tex., October 8-9, 1936

The productivity index has been quite widely discussed, and engineers are in agreement as to its many advantages. However, there has not been sufficient field testing to determine its practicability. Theoretically, all that is necessary to determine the index is to measure the static bottom-hole pressure and then produce the well, measure the production and the flowing bottom-hole pressure, and calculate the productivity index. Actually, it is necessary to measure the bottom-hole pressure at various rates of production in order to eliminate the possibility of errors which may be incurred in determining only one value. When plotting the indices thus obtained, it has been found that in many instances a different value is obtained for the index at each rate of production. This naturally gives rise to the question as to whether or not the index is a constant with rate of production, or whether we should expect to find a different value for each rate. In order to be able to make practical application of the index in the allocation of production, it should be a constant with rate of production, since if a different value is obtained at each rate it would be extremely difficult to determine at which rate the value of the index should be taken. In order that the index be a constant, the pressure differential must be a straight line function of the rate of production according to the equation $y = m\,x - b$ with, b, equal to zero, y, equal to the pressure differential and, x, equal to the rate of production. The slope of the line, m, is then equal to the productivity index, and is a constant.

Stanley Herold[2], indicates that the productivity index, defined as the barrels per day per pound pressure differential, is not a constant with rate of production. He defines two indices, one for reservoirs in hydraulic and volumetric control, and one for reservoirs in capillary control. For the first, dividing the rate by the one-half power of the pressure differential should yield a constant index; and for capillary control, dividing the rate by the three-halves power of the pressure differential should yield a constant index. However, the writer in a paper presented at the mid-year meeting of the A.P.I. in May, 1935, presented data which indicated that the index arrived at by using either the one-half or the three-halves power of the pressure differential did not yield a constant index. The conclusions in that paper were that if the index is properly determined and errors in measurement of production and bottom-hole pressure are eliminated, the index as defined in this paper is a constant with rate of production. Since this is an open question it is hoped that this paper will stimulate some thought and study on this subject, and that in the near future we will be able to make practical application of the productivity index in the allocation of production.

Considerable progress has been made in recent years in the development and perfection of bottom-

(Continued on Page 52)

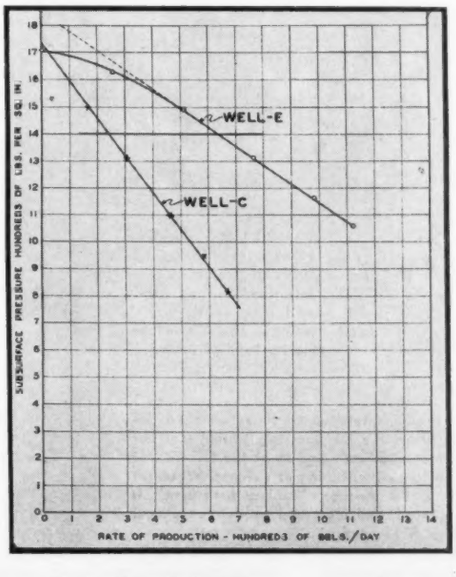
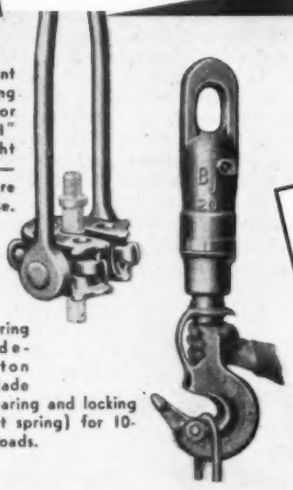


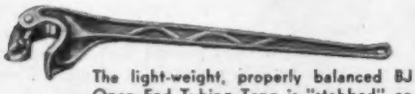
Fig. 3—Bottom-hole pressure vs. rate of production for wells C and E

BJ Sure TO



Equipped with front and rear operating latches; made for rods from ⅝" to 1" —in both a Light and a Heavy Type— BJ Rod Elevators are safe and fast in use.

The BJ "20" Spring Rod Hook is designed for 20-ton strings of rods. Made also with ball bearing and locking arm (but without spring) for 10-ton and 15-ton loads.

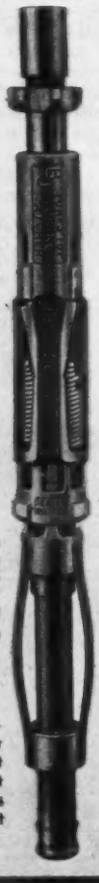


The light-weight, properly balanced BJ Open End Tubing Tong is "stabbed" on the tubing, ratchets perfectly and stays on until released by the operator.

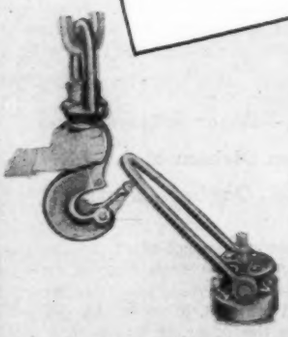
The BJ Snapon completely encircles the tubing and locks in place. The "back-up" lever takes care of cross threads without removing tong from tubing.

For short derricks where overhead clearance is important, use the BJ "30" Tubing Hook, with the strong, safe "locking arm".

The BJ "50" Tubing Hook is safe for 50-ton loads of tubing. Made with the "locking arm" and enclosed relief spring— also—in a size for 75 tons of tubing.



For tubing safety at all times you can depend upon the BJ Surestop Tubing Catcher which sets instantly and stops the fall without injury to casing, tubing or catcher. When set with a BJ Anchor, "tubing breathing" is eliminated, and increased production almost always is secured.



Here's a combination for fast working production crews! Note the open "locking arm" on the BJ "10" Rod Hook (here open to pick up the bail on a BJ Rod Elevator) which closes and locks to form a safe C-link when the load is lifted.

337 ELECTORAL VOTES

in Oil Producing States marked ■
out of Total of 531 votes
ASSURED for BJ TOOLS

ALABAMA	11
ARKANSAS	9
CALIFORNIA	22
COLORADO	6
IDAHO	4
ILLINOIS	29
INDIANA	14
KANSAS	9
KENTUCKY	11
LOUISIANA	10
MICHIGAN	19
MISSISSIPPI	9
MONTANA	4
NEW MEXICO	3
NEW YORK	47
OHIO	26
OKLAHOMA	11
PENNSYLVANIA	36
TENNESSEE	11
TEXAS	23
UTAH	4
WASHINGTON	8
WEST VIRGINIA	8
WYOMING	3
TOTAL FOR BJ	337

LOOK FOR BJ
ON PAGES 288 TO 352
OF THE 1936
COMPOSITE CATALOG

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BJ Profit Making DRILLING &

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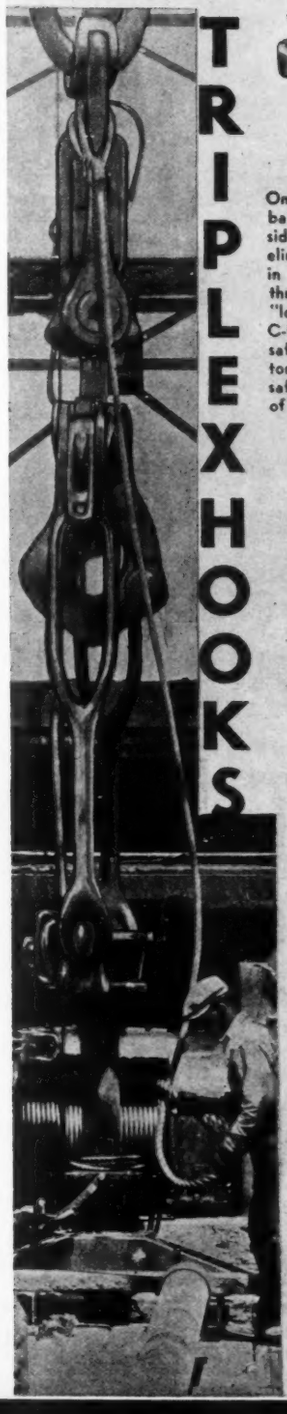
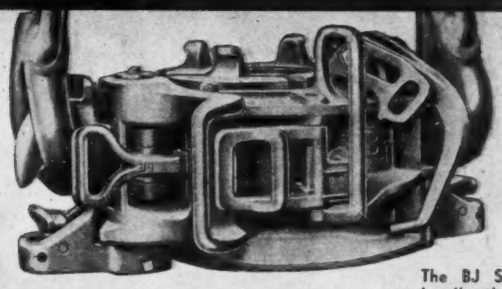
ALL parties agreed BJ PLATFORM of SAFETY, EFFICIENCY & ECONOMY meets needs of Oil Country!

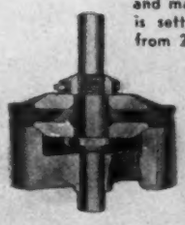


TRIPLEX HOOKS

One hook for the swivel bail and a hook on either side for the elevator links eliminate off-center stress in BJ Triplex Hooks. All three of these hooks have "locking arms" which form C-links and afford complete safety. One size is for 150-ton loads—the "300" is safe for the longest strings of drill pipe or casing.

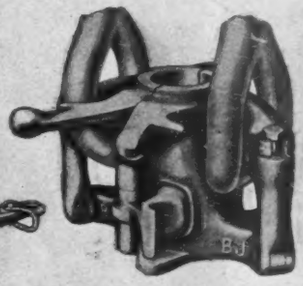


The BJ Side-Door Slip Elevator handles the longest strings of pipe without lifting under the collar or coupling. Four long slips grip the pipe at any desired point. Handled by one man on the derrick board, and may be removed while cement is setting. For all sizes of pipe from 2⅞" to 20".

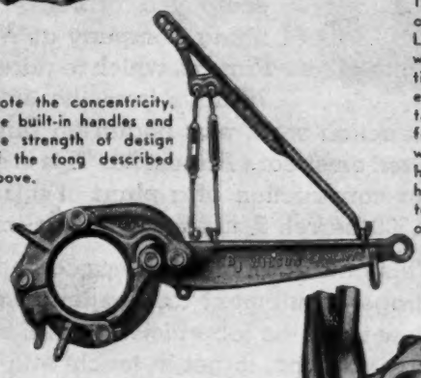


The rubber "shock absorber" in BJ Slush Pump Valves cushions the impact due to seating, and practically doubles the life. They are instantly, completely reversible without adjustment or replacement of parts.

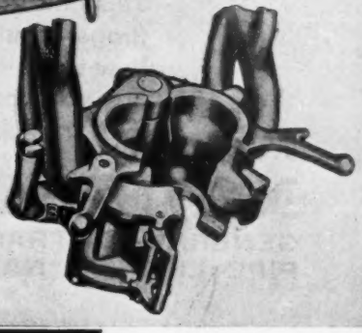
Here is the BJ Extra Heavy Rotary and Casing Tong for fast action in making-up or breaking out Full Hole and other large diameter tool joints—as well as handling casing up to 8⅜" O.D. Safe also for breaking out drill collars, core barrels, etc., but as fast and convenient as lighter types.



Note the concentricity, the built-in handles and the strength of design of the tong described above.



The fully heat-treated body of the BJ Type A Center Latch Elevator successfully withstands (without upsetting) the terrific pounding effect of tool joints contacted at high speed. Built for long, hard service—with long, safe operating handles, a convenient rear handle—and a latch protected against accidental opening.



BJ Type "G" Elevators are designed and bored to handle upset drill pipe without using lifting plugs. Both the "G" Center Latch and the Side Door Type "B" are safe for the longest, heaviest strings of external upset drill pipe.

& PRODUCTION TOOLS

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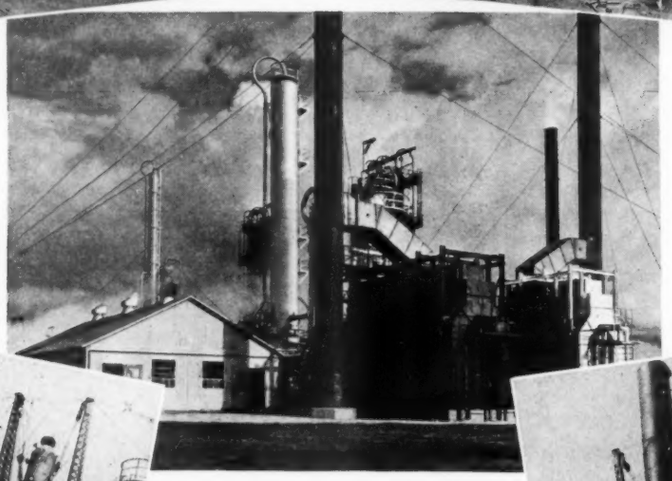
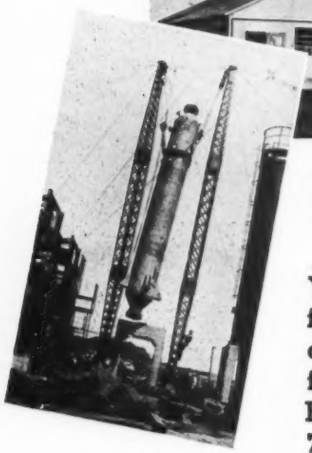
ONLY 79 DAYS

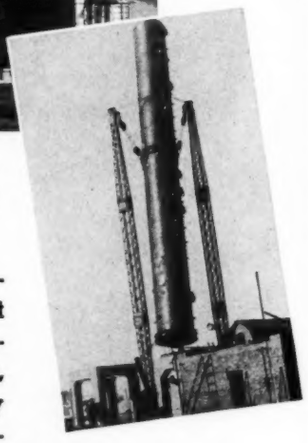
TO CONSTRUCT BARNSDALL REFINERY

Above — Progress at end of first week.



Above — Progress at end of eighth week.





Center—Finished plant in operation at end of 79 days. Camera view at left shows Reaction Chamber being erected. At right, Bubble Tower.

Yes, we are proud of the refinery construction job just completed for Barnsdall Refining Company at Wichita, Kansas, which required only 79 days from the time construction work was begun on June 2, until the plant went on stream August 20. This is considered a record for construction of a plant of this type, which has a 2,500 barrel, 2-furnace, Dubbs Cracking Unit.

This outstanding performance is the result of having proper equipment and experienced men who know how to do the job efficiently and satisfactorily. It will pay you, too, to get in touch with us before contracting for a job of this nature!

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Key Building

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(Continued from Page 49)

hole pressure gauges. Cooperative work among the several companies has shown that where proper precautions are taken, check bottom-hole pressure measurements may be obtained, both with the same instrument, and with two or more instruments, even when the several instruments are of different makes. However, it is also well known that if proper precautions are not taken, check results are not obtained. In determining the productivity it is highly important that the subsurface pressure gauge be accurately calibrated, and if two or more gauges are used it is important that they be calibrated on the same deadweight tester and also be checked in the well, if comparable results are to be obtained. When determining the static pressure of a well, precautions must be taken to properly prepare the well, the most important factor being the shut-in period prior to measurement of the pressure. While one well may attain its maximum pressure in four hours, another may require 24 hours; the period required to reach equilibrium depending on the rate of production prior to closing in the well, the permeability of the producing formation, the physical properties of the reservoir fluid, and other factors. In obtaining the bottom-hole pressure while the well is flowing, it is necessary to permit the well to flow at that rate for a sufficient period of time to allow the reservoir conditions to become stabilized; this again may require only a few hours in one well, whereas another well may require 10 or 20 hours.

Another very important factor in determining the productivity index is to accurately gauge the well's producing rate. While it may be true that the pressure differential is a straight-line function of the rate of production, this condition exists only at the lower rates of production, since at high rates the resistance of flow through the producing formation, liberation of gas from solution, and other factors are disturbing elements. Even if this were not true, it would still be desirable to produce the well at low rates to prevent undue waste of gas, the possibility of water coning, and other detrimental factors. Therefore, it is highly important that the well's production be accurately gauged, since a small error may result in considerable error in the value of the index.

The above factors are highly important and should be carefully observed as they may make the difference between accurate and reliable indices compared with erroneous, useless data. It is the writer's experience that in most cases, if not always, productivity indices which are not constant with rate of production are due to errors in measurement of the bottom-hole pressure, or in gauging of the producing rate, or both, and if the data are rechecked, and all possible errors eliminated, a straight-line relationship will be obtained.

TABLE 1—DATA OBTAINED ON SOUTH BURBANK POOL WELLS

Subsurface pressure (Lbs. per sq. in.)	Pressure differential (Lbs. per sq. in.)	Rate of oil production (Barrels per day)	Barrels per day — Pressure differential
	WELL A		
962	0	0	....
842	61	120	1.97
838	65	130	2.00
750	121	228	1.88
719	184	362	1.97
718	185	382	2.06
710	193	385	2.00
709	194	394	2.03
697	206	453	2.20
650	253	583	2.30
582	321	858	2.68
	WELL B		
866	0	0	....
748	118	107	0.91
705	161	160	0.99
652	214	196	0.92
566	300	288	0.96
494	372	407	1.09
461	405	450	1.11
420	446	539	1.21

Table 1 presents typical data obtained on wells in the South Burbank pool. This data is shown graphically in Figure 1. It will be noted that the points for well A fall on two straight lines, while a single straight line interpretation can be put on all of the points for well B. Since the data at the low rates fall on a straight line for well A the productivity index is constant at these low rates and hence gives satisfactory results.

Table 2 presents data obtained on wells in the Keokuk and Lucien pools. This data is shown graphically in Figure 2. It will be noted that the

data for well C falls on a straight line, hence yields a constant productivity index. However, the data for well D curves upward, while the data for well E curves downward, yielding increasing indices in the first case and decreasing indices in the second case, as may be seen in the upper part of Figure 2. In cases of this type, unless it can be established that the data are in error, and upon rerunning, a straight line relationship can be obtained, endless controversy will result as to which value to use. The rate which yields the highest index for one well yields the lowest index for the other well. In order to minimize this difficulty it may be possible to use a modified productivity index, which modification may be accomplished by applying an exponent to the index, or by the inclusion of static bottom-hole pressure in the allocation formula.

TABLE 2—DATA OBTAINED ON WELLS IN THE LUCIEN AND KEOKUK POOLS

Subsurface pressure (Lbs. per sq. in.)	Fressure differential (Lbs. per sq. in.)	Rate of oil production (Barrels per day)	Barrels per day / Pressure differential
		WELL C	
1730	0	0	....
1498	232	166	.72
1317	413	315	.76
1095	635	470	.74
950	780	581	.74
813	917	668	.73
		WELL D	
1548	0	0	....
1403	145	155	1.07
1365	183	240	1.31
1235	313	428	1.37
1118	430	625	1.44
987	561	842	1.49
900	648	977	1.51
		WELL E	
1710	0	0	....
1630	80	255	3.19
1488	222	520	2.34
1315	395	772	1.96
1167	543	980	1.80
1058	652	1124	1.72

Figure 3 presents the bottom-hole pressure plotted against rate of production on wells C and E. It will be noted that the data at the high rates falls on a straight line in both cases, although on well E the data is curved at the low rates. If the straight-line relationship for well E at the high rates is extended to the pressure ordinate, it indicates a static pressure of approximately 1,850 pounds, compared with an observed value of 1,710 pounds.

Figure 3 illustrates another method which might be used to employ flowing bottom-hole pressures in the allocation of production without directly using productivity index, whereby the relative ability to produce is determined by the rate of production at a given bottom-hole pressure. For example, if the basic bottom-hole pressure selected is 1,400 pounds, the potential for well C would be 290 bbls., and well E 635 bbls.

In conclusion, it is recommended that when productivity indices are determined the following points be carefully observed:

1. Do not take pressure or production measurements until the well has been given sufficient time to reach equilibrium conditions. When in doubt as to the period required, pressure-time curves should be obtained.
2. Accurate measurement of production is just as important as accurate measurement of the bottom-hole pressure. Production measurements should be accurately gauged while the pressure gauge is in the hole, as well as before and after running the gauge.
3. Measurement of the gas as well as oil should be obtained. Often erratic indices are due to high gas-oil ratios at certain rates of production.
4. Every precaution should be taken to accurately calibrate the subsurface pressure gauge.
5. Several pressure measurements should be taken opposite the producing formation to eliminate all possible errors. In case of thick formations, reading should be taken at several points opposite the producing formation.
6. If the well is tubed but producing through the casing, the pressure measurements should be taken as near the bottom of the hole as possible, since under these conditions pressures in the tubing do not always reflect the pressure in the casing at the equivalent depths.

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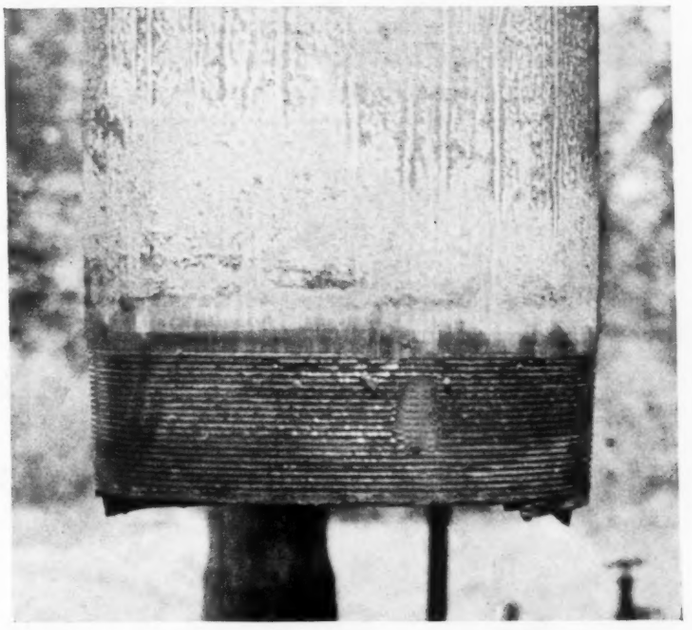
[1]T. V. Moore, Proc. A.P.I. 11 (IV) 27 (1930).
[2]Stanley Herold, Petroleum World 32 (6) 48 (1935).

PREVENT WHIPPED CASING AND TORN THREADS THIS SIMPLE WAY



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The above unretouched photograph shows a 12½" casing used in the Rodessa field which broke at 400'. It required one week's fishing time plus an expensive recementing job. The damage was caused primarily by whipped casing. This could have been prevented by the use of Patterson-Ballagh Drill Pipe Stabilizers.

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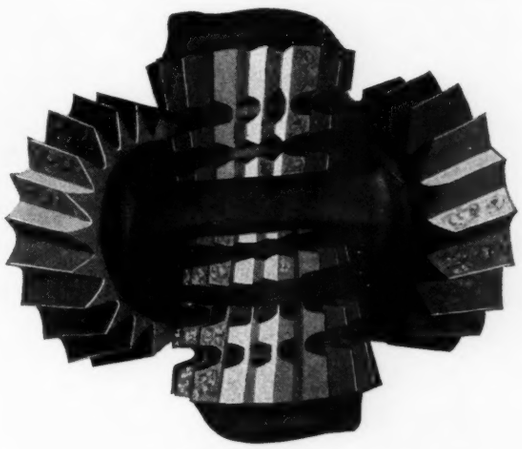

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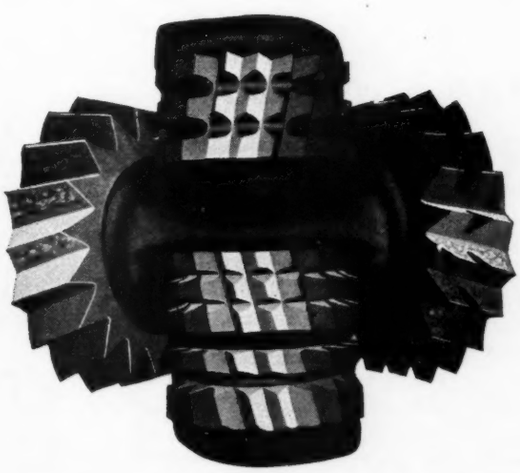

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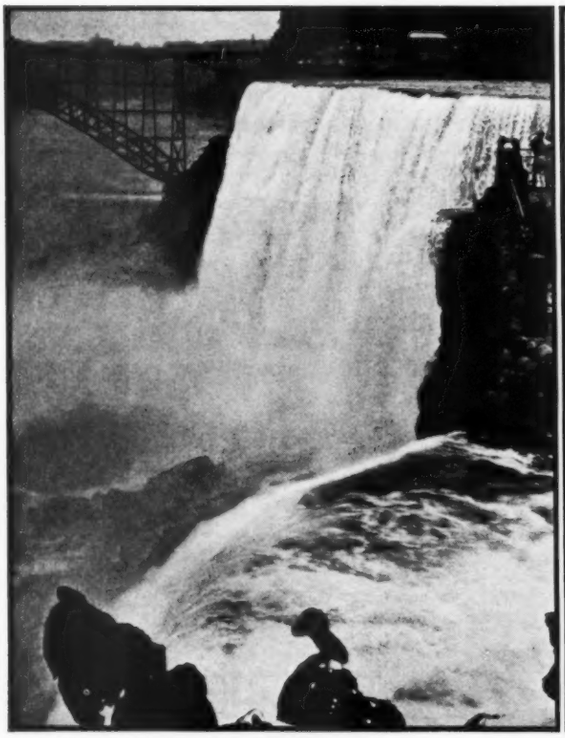

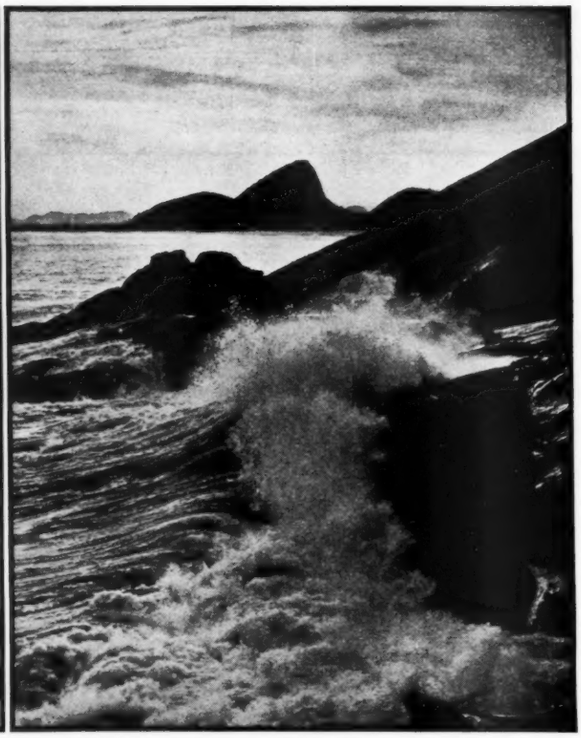

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UNITED STATES STEEL

Use of Electrical Power in Refining Petroleum

By D. R. JOHNSON
Continental Oil Co.*

The past 10 years have seen a tremendous increase in the utilization of electrical power in the petroleum refining industry. Not so many years ago its use was restricted to a relatively few applications, such as lighting, isolated water pumping stations, conveying equipment, etc. Today the uses of electricity in the refinery are many fold. The increase in application has largely been due to the development of the explosion-proof motor and improvements in pumping equipment.

To illustrate the possibility of approaching 100 per cent electrification we have only to consider the Denver, Colo., refinery of the Continental Oil Co. This refinery depends solely on electricity for power with the single exception of a small boiler feed water pump. The fact that this plant has operated splendidly since the early part of 1931 rather definitely proves that electricity offers a real challenge to other types of refinery power and demands recognition on a purely economic basis.

USES OF ELECTRICITY IN THE REFINERY

Without doubt the most important and certainly the largest power consuming application of electricity in petroleum refining is for pumping. From the time the crude leaves the large storage tanks on its way to the distillation unit, it and its derivatives are kept in nearly constant motion through the various processing stages until they ultimately come to rest in large finished stock tanks or tank cars. The propelling force necessary to carry the oils through the various stages must largely come from power-consuming pumps.

Of tremendous importance to a refinery operation is the pumping of water for condensing and cooling purposes. Electrically driven water pumping units are to be preferred in most cases. They are efficient, dependable, require the minimum of attention, and produce an even flow of water at constant pressures. It is not at all uncommon to have electrically equipped pumping stations operating without attendants and only requiring occasional visits of shift men in charge of their operations.

To give some conception of the amounts of water which must be pumped in operating refineries of various classifications, the following list is offered:

Type of operation—	Crude charged (bbls./day)	Makeup water (G.P.M.)	Circulated water (G.P.M.)
Skimming-cracking-lube oil	20,000	1,800	20,000
Skimming and cracking...	2,200	50	1,000
Skimming and cracking...	5,000	175	3,000
Skimming	1,500	40	750

It is to be remembered that the amount of circulated water is ordinarily handled twice, first at a discharge pressure of approximately 50 pounds, and second at a pressure of about 20 pounds.

Electrically driven pumps are also used for handling water for other purposes than condensing and cooling duties, such as boiler feed, fire fighting, etc.

The development in recent years of dependable centrifugal hot-oil cracking furnace charging pumps has opened up an excellent field for the use of electricity. Such units are usually of relatively large capacities where small variations in operating efficiencies of the driver can represent appreciable savings or losses.

Single units have been built and put in operation having daily capacities as high as 25,000 bbls. pumping against pressures up to 1,500 pounds. On such sizes, of course, the electrical motor must compete with a multistage condensing steam turbine which will operate at exceedingly low water rates. The turbine has a slight advantage from the standpoint of regulating the volume of output since control devices are easily adapted to the turbine governor mechanism for speed regulation, while the electrically driven unit, which is inherently a constant speed machine, must have its flow controlled by a more complicated and expensive discharge line throttling device.

Of sufficient interest to warrant mention is the use by some refiners of the dual drive on large hot-oil pumps. The pumps are so constructed that they can be driven from both ends of the shaft. In such cases an electrical motor is installed on one end and a steam turbine on the other. Usually the electrical unit is considered the normal drive and the governor on the steam turbine is set for a speed somewhat lower than the full load speed of the motor, so that it cuts in and picks up the load if any electrical disturbance occurs. It is said that transfers of drive from electricity to steam on such units is accomplished with but little or no ill effects on the operation.

Although the large-furnace charging-pumps are the most important in the hot-oil classification, there are a great number of smaller hot-oil pumps necessary in refinery operations, which can be successfully handled with electrical drive. Examples of these are: Pumps for handling flux, tars, side products from fractionating columns, reboiler oils, etc.

Of great importance in the operation of refinery distillation units are reflux pumps. Accurate control of fractionating column temperatures is an essential requisite to the manufacture of uniform specification petroleum products. It is only possible to obtain this required close regulation if dependable instruments and reflux pumps are used. Centrifugal and rotary pumps perform very satisfactorily for this duty and because of the relatively small sizes used, motor drive is particularly adaptable.

COMPRESSORS

The use of electrity to drive various types of compressors is perhaps next in importance to pumping. Even in the smaller topping plants relatively large amounts of air are necessary to carry on operations and maintenance work. In the larger cracking and topping plants greater quantities of air are required and frequently gas compressors are necessary. In the complete topping, cracking and lubricating oil refinery very large quantities of air are used, and we also have gas and ammonia compressors.

Certainly the air and ammonia compressors lend themselves particularly well to electrical drive. In a great many instances synchronous motors are used rather than induction motors to secure power factor correction on the system.

Although gas compressors could also be powered by electrical drive, this is seldom done largely because of the economies involved and the necessity of variable speed regulation.

ELECTRIC ARC WELDING

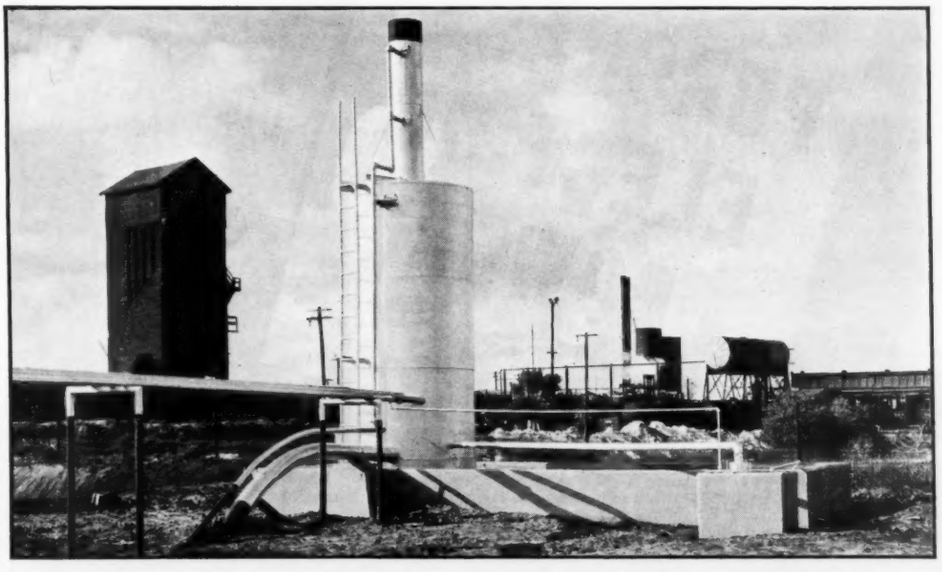
It is unnecessary to dwell on the growth of this very important art in the maintenance and construction programs of a modern refinery. We have only to contemplate the utter confusion which would result in the refining industry today if for any reason we would suddenly be deprived of this very important tool.

In the modern refinery machine shop we find numerous applications for electricity. Fortunately, the day has passed when shops were cluttered up with shafts, pulleys, belts, etc., which was common when one central power unit was used to drive innumerable machines throughout the building.

The compactness of electrical motors has allowed the use of individual drives on each machine which tends toward increased economy, greater labor efficiencies, improved safety conditions, and much less confusion generally.

In the machine shops we find lathes, drills, pipe machines, hacksaws, grinders, buffers, planers, cranes and many more machines powered with individual electrical motors.

In the larger refineries, particularly those in which lubricating oil is manufactured, appreciable



Blowdown pit serving Barnsdall Oil Co.'s new cracking unit completed at its Wichita refinery

*Read before Petroleum Electric Power Club eighth annual conference at Fort Worth, Tex., October 13-14-15.

THE UNIVERSITY OF NEBRASKA

amounts of power are required for the operation of conveying equipment. Various package goods in sacks, drums and paper cartons must be moved from one point to another. Chain and belt conveyors are also used for the movement of clays, sludge, coke, etc. In some cases lifts are employed to move material from one floor level to another.

LIGHTING

Refineries would indeed be at a serious disadvantage were it not for electrical lighting. The nature of refining processing requires that operations be continuous 24 hours a day. Electrical lights certainly do much to make such continuous operation possible.

The trend in modern refineries is toward the exclusive use of floodlights for outside lighting. These lights are usually mounted on steel towers of sufficient height that a large area can be illuminated from one tower. One very important advantage of the floodlighting system is that during fires there is little chance of interrupting the electrical service lines to the towers and, hence, ample light is available to aid in the fire fighting.

It is of interest to know that of the total electrical bill paid by refineries which are electrified to a normal degree the lighting portion will vary between 5 and 7.5 per cent.

MISCELLANEOUS USES OF ELECTRICITY

In addition to the uses for electricity already described there are countless others which under certain conditions assume proportions as regards energy consumption greater than those which have been referred to previously.

Numerous oil companies operate large flue gas and cold air fans in conjunction with oil-heating furnaces. Many other fans are also electrically propelled, such as the various types used for ventilation.

It would be possible to go on for hours describing special cases in which electricity is either the motive power or plays some other important part in the operation. It is believed that the following applications are of sufficient importance to at least mention in this discussion:

Mechanical agitators, mechanical mixers, oil dehydrators or emulsion breakers, control instruments, clocks, hoists and trucks.

Very frequently the refinery superintendent must decide what type of power to be used on a proposed installation. There can be no hard and fast rule set up, each case must be analyzed separately, and it would appear rather obvious that consideration should be given to the following items in the order listed: (1) Availability of power, (2) type of power best adapted to duty, (3) safety and insurance risk, and (5) economics.

Certainly before consideration can be given to the use of electricity for any given job, assurance must be had that it is available at the required characteristics. This study must not only take into account the service to the location, but the capacity at the source whether it be a generating station or a transformer substation. The question of availability will also, as a rule, come into play when final economics are calculated.

Next, consideration must be given to the adaptability of electricity to the job in question purely from the standpoint of operation. In other words, will the use of electrical equipment make possible the most satisfactory results? In this analysis will come into play a number of items, such as: available space, variable speeds, control characteristics, necessity for attendants, exposure to the elements, etc.

Insurance rates on refinery equipment depend on several things and the possible effect of a new installation on existing rates must be weighed. Let us take a specific example to illustrate this point:

The basic insurance rate on cracking stills is $3.25 a $100. Assume that a refiner installed an open-type induction motor is a location where an explosion-proof motor was required by insurance regulation. The insurance rater could increase the basic rate by 50 per cent and add another $1 a hundred for good measure, making a total of $5.88 a hundred instead of the original $3.25. Naturally,

(Continued on Page 62)

3500 # SURFACE PRESSURE

when completed safely through this 7"-6000-lb. test CAMERON MANUAL PREVENTER

When Harrison & Abercrombie's No. 1 Armstrong Fee, at Old Ocean, tried to blow out from 9,963 feet with a surface pressure of 3,250 lbs., it was successfully held down with a 3,000 lb. test Cameron Pressure Operated Drilling Control Hook-up, then on the well. Before an attempt was made to complete and bring-in this now famous well, world's deepest flush producer and one of the highest pressure wells ever finished, the rugged, husky hook-up shown above was installed.

Hook-up shown consists of a 6,000 lb. test drilling valve on the 7-inch casing; a 7-inch 6,000 lb. test Cameron Type RH Manually Operated Blow-out Preventer, equipped with self-feeding ram packing elements; and a second 6,000 lb. test drilling valve above the preventer. Two 6,000 lb. test flow-line valves were also installed, as shown.

With this hook-up in place, liner and screen were landed safely with the 3½" O.D. drill pipe, and drill pipe pulled from the hole. 9,943 feet of tubing was then run in without difficulty and, to eliminate all possibility of trouble, in view of the known high pressure, tubing was suspended on the closed rams of the preventer. Preventer became an integral part of the Christmas Tree hook-up. On completion, the well gauged a maximum shut-in pressure of 3,600 lbs. Normal pressure while producing varies between 3,400 and 3,500 lbs. at the surface.

Drilling and completion of No. 1 Armstrong Fee is typical of the manner in which thoughtful, cautious operators rely implicitly upon Cameron Control Equipment for safe, dependable drilling and completion control units. Even when extraordinary high pressures are to be dealt with, these units provide quick, positive control. Operators not fully informed with respect to the latest Cameron developments in the field of pressure control units will gladly be furnished complete information upon request.

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Semiautomatic Gathering Unit Aids Operation of Pipe Line System

By PAUL REED

In the course of enlarging the capacity of the line from the water-flooded area in the Nowata, Okla., field, the Stanolind Pipe Line Co. has installed a larger unit with semiautomatic equipment as a consequence of its successful experience with this type of control.

The Big Creek station, where this work was done during the past summer, is also the scene of the Stanolind's pioneer venture in semiautomatic control several years ago. As time has gone on, the advantages of this type of control have become so apparent that the practice was extended to 10 stations between 1931 and 1935. Now Stanolind operates 22 semiautomatic gathering stations.

During the first six months of this year, the facilities of the Big Creek station have been continually overtaxed by steadily increasing production coming from leases where local flooding is being carried on. The original 15-horsepower electric motor in service there the first of the year had to be replaced in the early part of the spring by a 25-horsepower motor. Soon this had to be replaced by a 40-horsepower motor. Finally it was decided during the early part of the summer to build an entirely new station alongside the original station and to equip this with a pump driven by a 75-horsepower motor.

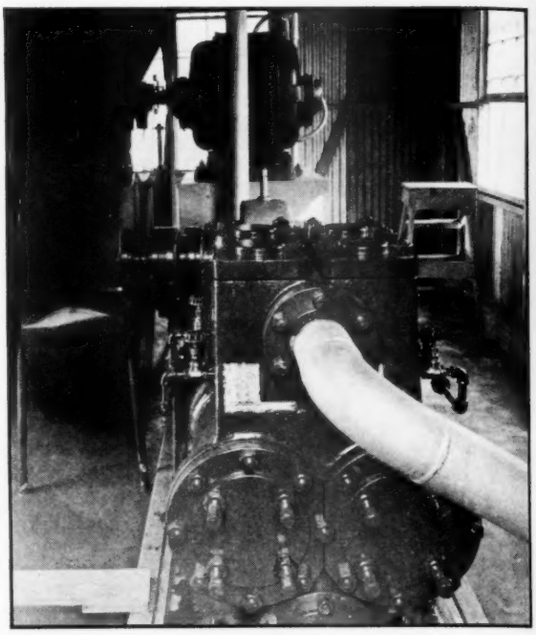
Although the pump and motor have been removed from the block and the house has been moved over to shelter the new unit, the original semiautomatic equipment has been left intact in the small office building in which it was installed. The pump foundations have been left in place. And if, in the future, additional capacity should be required it would be possible to replace the old pump and motor on the old foundations and operate with the old semiautomatic equipment.

Automatic features of the station not only provide for shutting down in cases of overload and electrical trouble but they also make it possible to shut down the pump several hours after the gauger has left the station.

Flexibility of operation has been facilitated by the use of a marked time switch instead of the former time switch. The switch formerly used could only be set at the hour it was desired to start or shut down. The new marked time switch has the advantages resulting from enabling the gauger to set the clock on the minute it is desired to have the controls function. The new marked time switch also makes it possible to skip a day or several days.

Here is an example of the way this marked time switch may be used. The gauger can leave the station at 6 o'clock Saturday night with the clock set to shut down the pump at midnight. And if desired the clock can also be set to start the pump again early Monday morning, say at 4 o'clock. By the time the gauger arrives at 7 o'clock Monday morning, the station will have pumped six hours without the attendance of the gauger.

Semiautomatic operation is also a step toward the future in line with the trend in engineering which is headed toward the time when more complete automatic control may be practicable. Wiring for the telephone system between stations is of a type suitable in case some form of central control might be adopted later on.



Interior of station showing pump driven by a 75-horsepower motor

CONTROL EQUIPMENT USED

The electric equipment at the original Big Creek semiautomatic station was duplicated at the Bible Creek station 10 miles south, with the exception that a 25-horsepower motor was used instead of a 15-horsepower motor.

Control equipment in the new Big Creek installation includes:

Heavy duty main line switch for control apparatus.

Time switch with the mechanism of the clock operated on 110 volts.

Magnetic relay switch operated on 110 volts, (hand or automatic operated).

Automatic starting compensator, 2,200 volts, 75 horsepower, operated by a 220-volt contactor.

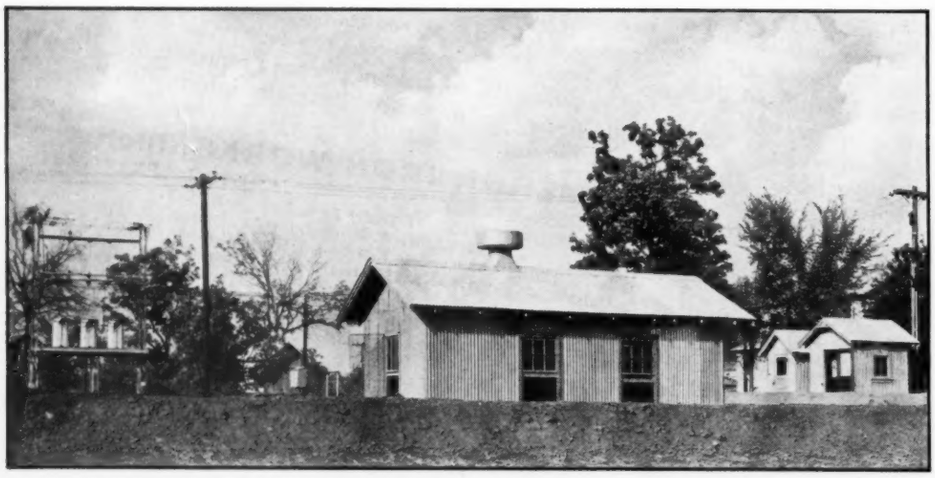
Oil circuit breaker, 60 amperes, 2,500 volts.

The principal differences between this and the previous installation are those incident to providing for operating a larger motor. The compensator of the new unit operates on 2,200 volts instead of 440 volts. Soon there will be added a mercoid switch for high-pressure operation which will shut off the current when there is excessive back pressure. The present relief valve will continue to be used. This relief valve, placed outside the building, starts to open at 550 pounds pressure and is wide open at 600 pounds, this opens a by-pass from the discharge to the suction.

Other measures taken for the protection of the equipment are provisions for proper grounding, two sets of lightning arrestors, primary fuses on the pole, temperature relay and no voltage releases to take care of overload that would heat the motor. An open phase and phase reversal relay will be added to prevent the motor from starting on open phase or reverse phase since this would lead to overheating. In the early experience with semiautomatic operation it was found that lightning was the worst thing to be contended with. Changes made in the original installation eliminated trouble from this cause. Another change made in the process of evolution was the removal of switches from the wall of the pump house to a small office building about 80 feet away as a safety measure, since the possibility of a leak in the pump house threatened to create a bad situation.

If the current goes off due to trouble on the power company's line, the station will start up again automatically as soon as the energy comes on again. For, when the current goes off it de-energizes relays and contactors, breaking the electrical connection, and when the current is restored the relays re-energize and restore the electrical connection.

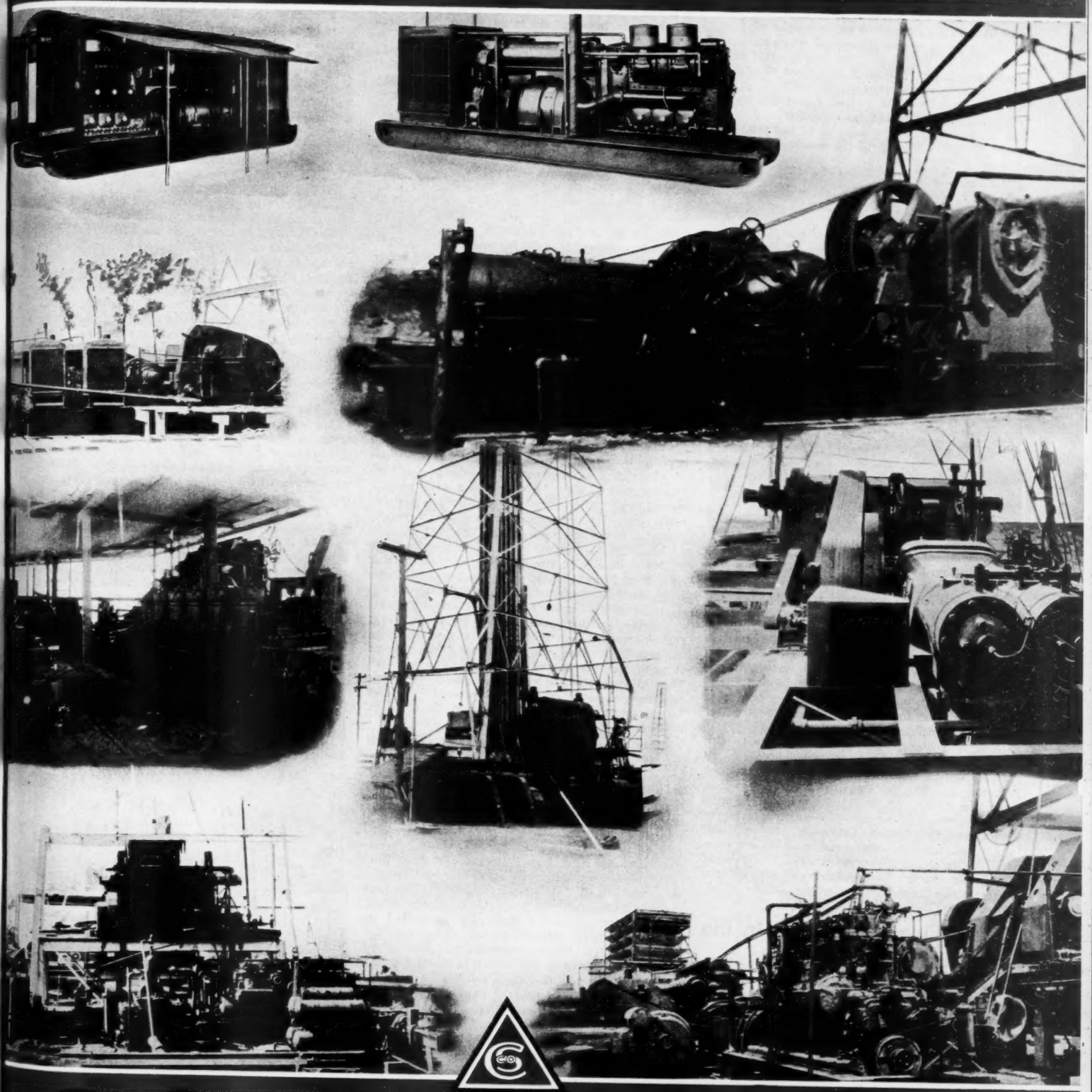
Protection against damage from floods, when the nearby creek rises, is afforded by two sets of dikes completely surrounding pump house and offices separately. As an extra precaution against



Big Creek gathering station of Stanolind pipe line Building to the extreme right houses semiautomatic controls of present station

FAIRBANKS-MORSE

Diesels FOR FLEXIBILITY AND POWER



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the danger of flood water rising above the dike, a chain hoist is placed so that the motor can be lifted off the block. As a rule floods occur only twice a year and the advantages of gravity flow to the station warrants placing it near the creek.

Oil comes by gravity from the lease tanks to the Big Creek station pump. A mile of 4-inch line connects the station with the 8-inch line which is also tied in with gathering stations at Bible Creek, Spencer Creek, and Alluwe. This 8-inch line transports oil from the Nowata field to Blake station, near Hula, Okla., about 30 miles distant.

The present gathering system was established to its present extent in this area in 1931 when the Stanolind pipe line came to the rescue of stripper producers at the time when the Nowata field was threatened with a loss of outlet for its oil. When the price of oil was at its lowest, the Stanolind made connections with most of the producers in the field. On account of the uncertainty of conditions existing then, one of the stipulations was that producers pay for a certain part of the line laid to connect with the Stanolind system. In the contract this pipe was deeded to Stanolind. However, after times improved the company has reimbursed producers for the expenditures required for pipe during emergency conditions.

Semiautomatic control equipment. From left to right: Main line switch for control apparatus; marked time switch; magnetic relay switch; automatic starting compensator; and oil circuit breaker, operating at 60 amperes

A station such as the one at Big Creek with its compact pump equipment and controls is an example of the strides which have been made in gathering line practice from the times not so long ago when stations of this kind were equiped with one or more slow-speed gas or oil engines on heavy foundations, two or more tanks, and station buildings, which were expensive and cumbersome compared to the modern compact station. The present Big Creek station is operated entirely by the gauger in the district.

Use of Electrical Power in the Refining of Petroleum

(Continued from Page 58)

this would result in a large premium increase on a quarter million dollar plant for example.

The question of insurance will again appear in the final economic analysis since the refinery may be forced to purchase unusually high-priced explosion-proof equipment to meet requirements.

Assuming that the first considerations have left electricity in the picture the acid test of economics is applied. In the majority of cases electricity must compete with steam, although gas engines are usually preferable to either for gas compressors, and diesel engines are coming in for considerable recognition for drives on furnace charging pumps.

Whatever the comparison may be, the following items may be analyzed. (1) Initial cost including installation, (2) operating cost, (3) probable maintenance expense, and (4) effect on existing power rates.

The initial cost will be affected by safety regulations, insurance requirements, availability of service, type of equipment, etc.

Operating costs must be calculated, using guaranteed efficiencies, known power rates and estimated capacities. Consideration should always be given to lasting qualities of the equipment; in other words, how will the initial comparison check with one made after a year's operation?

Perhaps the most difficult comparison to make is that of maintenance. Certainly most electrical equipment requires comparatively little maintenance, however, very careful consideration must be given to this important item.

A point which may in many instances be the deciding one is the effect on existing power rates, whether it be steam or electricity. There is perhaps more chance of this being critical on the electrical side of the comparison, especially if a large unit is contemplated. Many electrical contracts are so written that the consumer is penalized directly by an increased demand and indirectly if the higher demand affects the energy charge. The installation of a large unit could conceivably affect steam costs if an additional boiler had to be put on the line to supply the increased load.

SOURCES OF ELECTRICAL POWER

There are two sources of electricity available to the average refinery, namely: Electrical utility companies and refinery generating stations.

By the expansion of major utility company properties over the past 10 years, electricity has been made available to nearly all refineries, however small and isolated they may be. Utility company and refinery engineers have worked hand in hand expanding the safe and economical use of electricity to the mutual advantage of the two industries. Electricity can, as a rule, be purchased from utility companies at fairly reasonable rates, even by the refiner whose monthly consumption is not in excess of 50,000 KWH.

Many of the larger refiners in the past installed steam-driven generating equipment of their own since large quantities of low-pressure steam were needed in processing and the electricity was manufactured as a low cost by-product. Following development of high-pressure boilers, several large refiners went a step farther. Steam was generated at relatively high pressures and then passed through the turbine of a turbo-generating unit. The turbine acted as a reducing valve operating at a back pressure of about 150 pounds. The 150-pound steam was used throughout the refinery for pumping, processing, etc.

The success of such installations depends largely on the ability to properly balance the steam and electrical load of the refinery. Quite frequently the balance is secured by purchasing a portion of the total electricity required from a utility company. With such an arrangement maximum flexibility is possible and there is the added advantage of having adequate standby service in case of a failure at the refinery generating station.

The past several years have seen marked development in the diesel engine field. This has caused considerable interest in relatively small diesel-driven generating units for isolated locations, or where utility-company rates are unreasonably high. We are informed that some diesel engine manufacturers will install units on a profit pay-out plan, using as a basis the lowest rate possible to secure for purchased power.

In our opinion, the utility companies must face this as a real problem of competition. It must be realized that small diesel units can and do produce electricity at a relatively low cost in refineries where fuel values are low and operating labor costs are nil.

Another very real possibility in the field of refinery power generation is the use of gas-engine-driven generating units. Small cracking plants, as a rule, produce more noncondensible gas than can be used as fuel in the furnaces. Gas engines are now available which will operate on gasoline or refinery residue gas. On such a setup the engine would use gasoline for fuel while the cracking unit was shut down and residue gas while on stream. Power could be produced quite cheaply in this manner as the gas fuel used would carry no value.

INCREASE OF SALES TO REFINERS

In our opinion, the utility companies have several avenues of attack open to them for increasing the sale of electrical power to refineries, and consequently discouraging the installation of small generating plants.

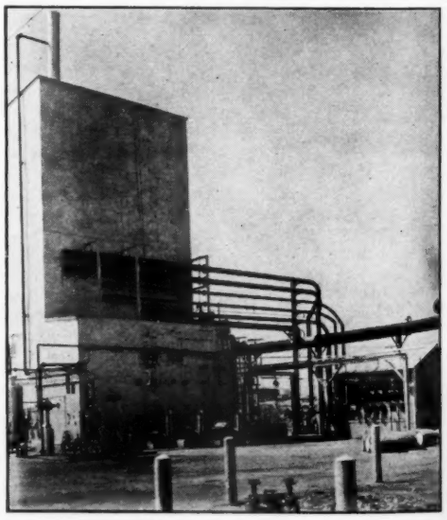
Certainly the first and most important step must be to offer more attractive rates especially to refineries with such limited power requirements that the monthly consumption is in the neighborhood of 20,000 KWH. It is our firm belief that the failure to establish more reasonable rates for the light loads has already, and will continue, to encourage the installation of small generating units.

One of the soundest arguments a utility company can present for the purchase of power versus generation is continuity of service. A well organized and equipped utility system can surely assure a refiner that outages are rare and that he will take less risk by drawing power from them than attempting to produce his own electricity.

Continuity of service is so very important to a refinery that it frequently becomes necessary to provide two sources of supply. At one of our refineries, where the interruption of electrical service means a complete shutdown, a selective switching arrangement is used. Two main and separately energized circuits are brought into the transformer substation. The transformers draw current from only one circuit at a time, but if the voltage on that circuit drops to a certain point, or a complete outage occurs, the selective switching device throws the load to the other circuit in a time interval of four seconds. The time delay relays on all important motors in the refinery are set at seven seconds; hence, power is restored before the breakers trip out, and the motors come back up to speed under full load. This arrangement has worked remarkably well for a number of years and has prevented many expensive shutdowns.

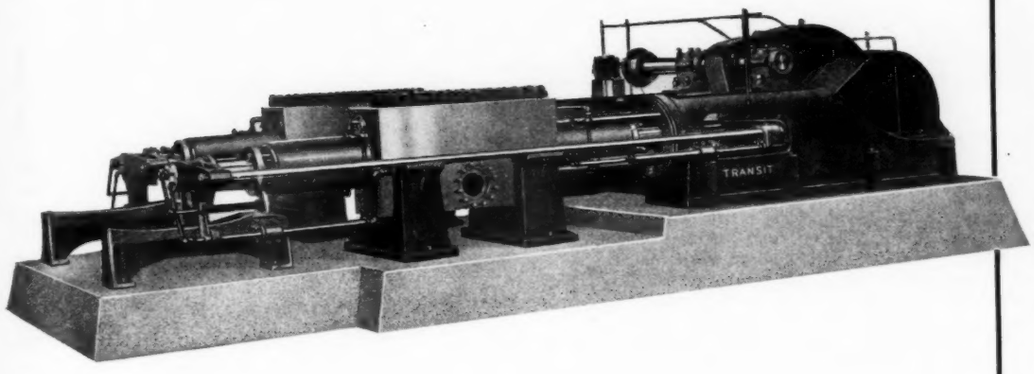
In conclusion, it can be said that electricity will without doubt play an increasingly important part in the refining of petroleum. Certainly the saturation point has not as yet been reached. The rate of increase in the use of electricity will depend largely upon further reduction of power rates, improved equipment, and increased adaptation through efforts of refinery and utility engineers.

SULFUR RECOVERY UNIT



Standard Oil Co. of California's recently installed sulfur recovery unit at its El Segundo refinery. The unit is used to remove sulfur dioxide from the cracking still gases, employing the phenolate process. After purifying the H_2S it is manufactured into sulfuric acid. The unit is also applicable for the removal of hydrogen sulfide fumes before passing the cracked gases into a polymerization unit.

TRANSIT
Hot Oil Pumps



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Production Practices Used in Panhandle

By L. G. E. BIGNELL

Small pumping unit powered with multi-cylinder engine. In the foreground is a structural-steel mast ready to be erected

In the Texas Panhandle there are 2,892 oil wells which have a combined allowable of 59,485 bbls. per day or an average daily production of about 20.4 bbls. Of this number there are 83 wells classified as water wells under special orders of the Railroad Commission dated November 18, 1932 and November 25, 1935 which produce 3,480 bbls. of oil and 13,936 bbls. of water daily. The water wells average 209 bbls. of fluid daily and present the heaviest pumping problem in the field.

Because of this condition practically all wells in this district are produced with some type of power. Some old wells are still beam-pumped but they are being converted over to pump jack and some type of multiple pumping unit as rapidly as possible.

These multiple pumping units may be classed as some form of back side pumping outfits or central powers. In some instances beam pumped wells also pump one or two other wells using back side cranks to transmit power through rod lines to the other pump jack units. All wells are about 3,000 feet deep which makes this type of pumping possible and as their daily capacity is low it is possible to get the oil the wells are allowed to produce in from 8 to 12 hours each day.

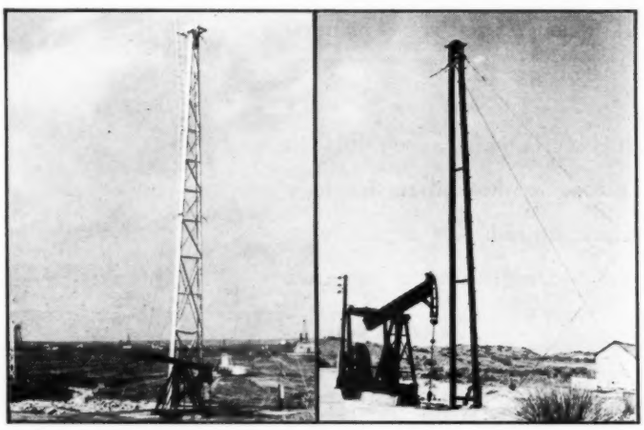
Many of the older wells had wooden derricks over the hole and it has been common practice to remove the old derricks and replace them with some form of steel mast. Some companies make the masts out of old casing while others are purchasing modern type structural steel masts to replace old wooden and steel drilling derricks. The masts are usually 45 feet high.

Where the masts are used it is common practice to install some form of individually powered pumping unit. Some of these units are equipped with multiple cylinder internal combusion engines while others are powered with 7½- and 10-horsepower electric motors.

On one lease operated by the Stanolind Oil & Gas Co. northeast of Borger a central electric generating plant has recently been installed. This plant consists of one 165-horsepower twin-cylinder gas engine with a 100 K.W. generator driven by "V" belt. The power generated at this central plant will be transmitted to 15 to 20 wells which will be equipped with electric motor driven pumping units. The motors are rated for 10 horsepower but do not require this much power to produce the well. Two-inch and 2½-inch tubing is used with 32-inch stroke jacks and they are run at from 18 to 20 strokes per minute.

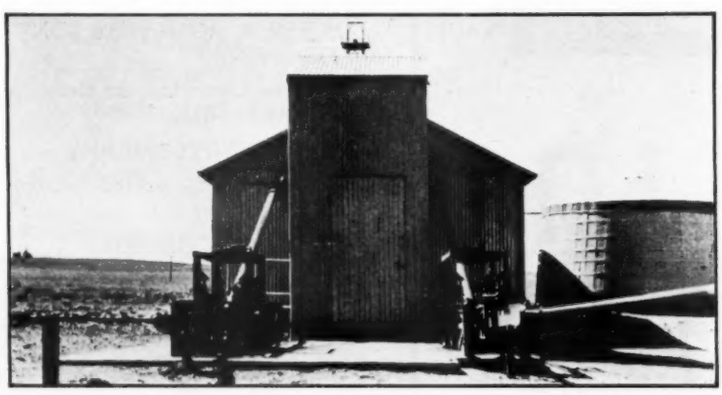
Such wells will be serviced by portable cleanout units mounted upon trucks for pulling rods and tubing. Later these pulling machines may be equipped with 40-horsepower electric motors and current furnished by the central power plant with connections at the wells for plugging in whenever the well is to be serviced.

As this is the first electric generating plant to be installed in this district the wells are now all turned on and shut off by the leasemen. Later the wells may be equipped with time clock devices for starting and stopping the motors.



Two types of masts, one being made of structural steel and the other from old casing, for servicing wells in the Panhandle

One group of wells northwest of Skellytown are produced with a central gas engine driven belted unit which pumps two wells. The engine is rated at 40 horsepower and the two wells are pumped through the use of cranks attached to the shaft running through the bandwheel. The motion is transmitted from the cranks to horizontal carriages which run in a frame and on tracks and to which the rods are fastened. The rod lines run straight out from the power unit to pump jacks at the wells.



One type of pumping installation in the Panhandle. The power is transmitted by the bandwheel to two cranks connected to the rods. These impart a horizontal motion to the carriage to which rod-lines are attached

Another lease in this same district has four wells pumped by a geared unit powered by a 40-horsepower twin-cylinder engine. Two of the wells are on the front side of the unit and two on the back side. The rod-lines are provided with angle swings whenever necessary. Some four-well geared-powers are set in the center of the space bounded by the wells which form a square.

One company in Gray County is using eight central powers to produce part of the oil and estimates that by increasing the number of strokes per minute or the length of time the wells are pumped about one-third more oil could be secured. This indicates the lack of need for large capacity units. The wells have their potential established and are then prorated and as long as they are able to make their allowable each day no new potential tests are necessary. This eliminates the need for heavy equipment at these wells for the purpose of establishing periodical potentials.

One of the principal production problems of this whole area is the handling of paraffin in the tubing. Because of the low production rate this oil has a tendency to precipitate paraffin in the tubing very freely. All kinds of methods have been tried to overcome this condition but without uniform success.

Paraffin solvents and heaters have been used but the results have not been all that was hoped for and the paraffin still drops out of the oil. Once the oil is above ground and in the storage tanks it is only necessary to pump it at a high velocity to keep it from precipitating paraffin. If the oil can be stirred by any means the paraffin will remain fluid but if it loses velocity the paraffin congeals quickly.

It has been noted at some wells in this area where small leaks occurred at the tubing head and oil escaped to the derrick floor in cool weather it would congeal and build up into a little pile. If this pile of oil was stirred with a stick for a few minutes it would become fluid and run. The same thing is true of some tank bottoms. When the field was first opened the pipe line companies were concerned about this paraffin and some companies put in high-pressure pumps but it was found if the lines were filled and the oil moved along at a good velocity no trouble with the paraffin was experienced.

When wells fall off in their production rate many are treated with hydrochloric acid but as they produce from either the dolomite or granite wash this treatment is not always as satisfactory as desired. Shooting the wells with a properly placed charge of nitroglycerin seems to have a more uniform good effect and in some instances the wells are first shot and then acidized with very good results.

In a general way the production problems of the Texas Panhandle have been solved but there is still room for improvement in details. It is estimated there are about 5,400 inside locations still to be drilled as needed and to equip them will require the investment of considerable new capital for many of the old wells will still be producing when some of the new ones are drilled.

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These SICROMO Steels contain 0.50% Molybdenum and high silicon in combination with different amounts of chromium as indicated by the grade numbers. These numbers represent the mean chromium content of the alloy.

The development of the Timken Sicromo series is the result of the great success of Timken DM Steel—the first silicon-chromium-molybdenum alloy for general high temperature use. During 4 years of service Timken DM has definitely demonstrated the need for other alloys of this type.

There are many tube applications involving various conditions of corrosion and oxidation for which SICROMO Steels are particularly suitable. SICROMO 1, 2 and 3 should be selected for intermediate service and SICROMO 5 for the most severe conditions of corrosion and oxidation. Your inquiries will receive prompt attention.

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ELECTRIC FURNACE AND OPEN HEARTH • ALL STANDARD AND SPECIAL ANALYSES

PROBLEMS FROM READERS

Edited by L. G. E. Bignell

Equipment for Protection of Gasoline Storage Tanks Needed

Is there some recent development in the equipment used to protect gasoline tanks from lightning? If not, what is the best and most up-to-date form of lightning arrestor used for gasoline storage tanks?—B. M. H.

You will find reports submitted by a sub-committee of the American Petroleum Institute at the Tulsa meeting held Dec. 7, 8 and 9, 1926 published in Bulletin, Vol. VIII, No. 6, January 21, 1927 by the A.P.I. These reports cover cause of tank fires and make recommendations for protective equipment. While the reports deal mostly with crude oil the same general principles govern the protection of gasoline tanks.

It is suggested you attempt to secure copies of the reports above referred to and also ask the A.P.I. for any more recent reports which may have been submitted on this subject. The American Petroleum Institute, 250 Park Avenue, New York City is the address.

Central Water Station Suggested for Delivery of Drilling Water

We desire to pump water from a river about 3,000 feet from our first drilling location. The banks of the river are at least 500 feet high, but there are draws down to the bank of the stream, and the pipe could be laid along one of these draws so that the lift would not be straight up. Later we propose to extend the line to other drilling sites.—J. I. H.

Your problem cannot be answered without much more information. You do not give any information about type of power available or desirable. You do not state whether the wells will be drilled with rotary or cable tools and you do not indicate how many wells may be drilling at one time. Without these data we can only give some general information.

The fact that the pipe line can be laid along the sides of the draw does not eliminate the necessity of lifting the water at least 500 feet. This would mean a head of approximately 250 pounds plus friction and would probably total not less than 300 pounds per square inch for an efficient pump.

For a rotary well it would be necessary to provide at least 3,000 bbls. of water per day. This would include water for mixing the mud and feeding the boilers. It would be wise to install a plant at the river with at least twice this capacity or about 6,000 bbls. per day. This volume of water equals 525 gallons per minute.

To find the horsepower necessary to elevate water to a given height, multiply the weight of water elevated per minute in pounds by the height of the lift in feet, (height is measured from surface of water to highest point to which the water is to be raised), and divide the result by 33,000, which will give theoretical horsepower.

A simple rule to find quantity of water elevated in one minute, running at 100 feet of piston speed per minute, square the diameter of the water cylinder in inches and multiply by 4. For example: Capacity of a 5-inch cylinder is desired. The square of the diameter (5 inches) is 25, which, multiplied by 4, gives 100, the number of gallons per minute, approximately.

In your problem you have 525 gallons per minute to be lifted 500 feet. One U. S. gallon of water weighs 8.33 pounds. 525 gallons×8.33 pounds equals 4,373.25 pounds. 4,373.25×500 feet equals 2,186,625 foot pounds, divided by 33,000 foot pounds gives about 65 horsepower theoretical power required to lift this volume of water 500 feet.

Allowance must be made for slippage in the cylinders and efficiency of the pump and it is therefore necessary to divide the above horsepower by 75 and this will give 86.75 horsepower. Friction loss in the pipe line will also have to be considered and this cannot be calculated until something is known about the grade on which the line is to be laid and the diameter of the pipe selected.

To Acidize Or Not to Acidize Is This Operator's Problem

I have acquired several wells near Lima, Ohio, that have been closed in for some time because of action in court. They produce from the Trenton lime and are about 1,250 feet deep. Is it desirable to have these wells treated with hydrochloric acid before attempting to reopen them?—R. E. V.

This is an interesting question and at first glance it would seem that the answer is "yes." But as you have not definitely located these wells except to say they are near Lima, Ohio, our advice is to have some reputable acid treating company advise you about acidizing. There is a fault through the Lima field which has had a decided effect upon the use of acid in wells. On one side of the fault the general results have been good, on the other side not so good.

It is therefore best that you consult with some local company familiar with conditions where your wells are located rather than go upon the general theory that all limestone producers will be benefitted by an acid treatment.

Basic Principles for Well Shooting Same as for Other Purposes

What are the general basic principles governing the shooting of oil wells? Do they vary greatly from the proper use of high explosives for any other purpose? The wells in which I am interested are gas wells, in the Berea grit. The thickness of the actual pay varies from 5 to 8 feet, and it occurs in the upper portion of the main body of the sand, which is about 42 feet thick. The pay sand is very close and consequently the volume of gas output is small. The size of the hole drilled is 4⅞-inch. I had in mind drilling to about 10 feet below the pay and placing a shot there and extending up into the actual pay one-third or one-half way. I like the idea of tamping with sand or other such material, but I do not know how this is to be gone about, nor do I know anything about time bombs. So anything you can tell me about the general principles underlying well-shooting will be appreciated.—D. B. McC.

The fundamental principles of proper shooting are universal in their application, though the technique varies to conform to particular conditions. The all-important features in blasting anywhere for any purpose are: (a) proper confinement of the explosive; (b) distribution of the explosive to obtain the desired effect on the surrounding materials; (c) proper and complete detonation of the explosive by the use of a form of detonator which will insure against partial detonation; and last, but by no means least, a thorough knowledge of the characteristics of the material to be blasted and conditions surrounding it, as well as a general understanding of the characteristic of the blasting medium so that the technique of its use may and can, to a great extent, govern the results.

Why Gasoline Content Increases in Gas From the Older Wells

I wish to obtain some reliable data touching on the subject of gas depletion in oil wells and the increase in gasoline saturation, which usually follows. What is the ratio of one to the other?—J. J. McP.

Your question is an interesting one and we know of nothing in the literature bearing directly upon this subject although it is possible someone may have attempted to explain the phenomenon to which you refer.

It is believed that gas exists in free and saturated state in the reservoir. There is a critical pressure and temperature at which gas will come out of solution in the oil. As the oil pool was formed some gas went into solution in the oil and the balance was left in a free state occupying pore space not filled with oil or water.

Soon after the oil field is opened this free gas escapes and it is relatively low in gasoline content. As the pressure in the formation is reduced and this free gas drained away gas that has been in solution in the oil is released and produced.

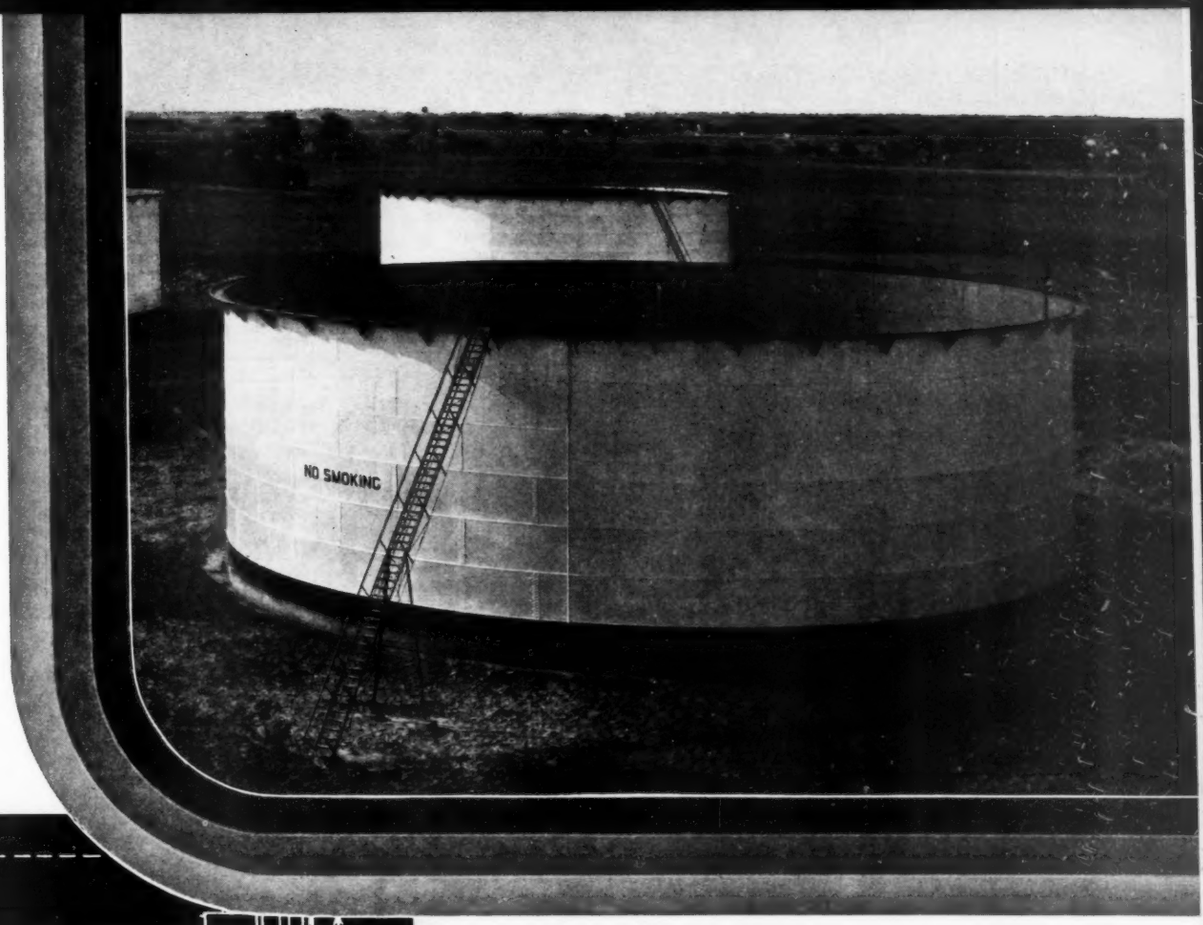
At first there is a larger volume of gas with low gasoline content—later the volume of gas is materially reduced but the gasoline content greatly increased. In Burbank field, Oklahoma, the gas as produced during the early life of the field contained about one gallon of gasoline per thousand feet. Now the gas from this same field carries from six to eight gallons of gasoline per thousand feet. In Glenn pool, Oklahoma, the increase was even more pronounced, increasing from about one gallon per thousand feet when the field was young nearly 30 years ago until at one time about 13 gallons per thousand was being extracted. Glenn pool wells have been under vacuum for many years.

These experiences, which might be multiplied many times, seems to indicate that the gas later produced with the oil has been saturated in the oil and therefore contains more of the lighter hydrocarbons which go to form gasoline when processed. In other words the gas that has been held in the crude oil has had opportunity to absorb certain light hydrocarbon fractions and increase its gasoline content.

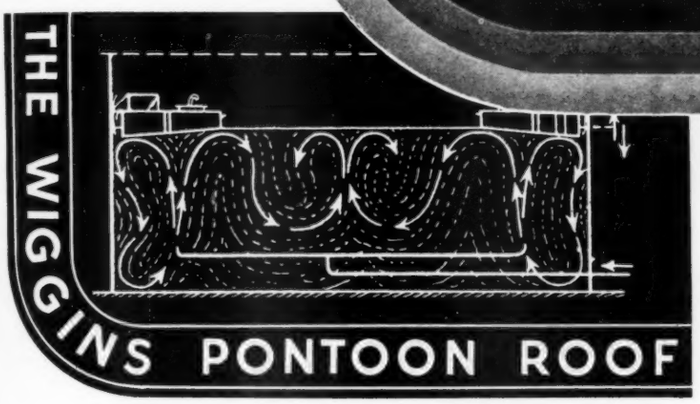
Another explanation may be that the gas in passing through the pores of the sand filled with oil under reduced formation pressure has better opportunity to pick up light hydrocarbons than it had when the formation was under original pressure. It is a well established fact that passing dry gas through oil will enrich the gas and at the same time lower the gravity of the crude oil with which it has been in contact.

There have been many instances where casing-head gas, after being subjected to compression and cooling, has proved to have had so low a gasoline content as to make it unprofitable. This was found to be due to the fact that the gas had moved through an oil-bearing stratum where the oil had an asphaltum base and thus low in paraffin hydrocarbons for the gas to pick up.

Change in film tension and interfacial values, rate of withdrawal, reduction of formation pressure and temperature and other conditions may all play some part in creating this higher gasoline content in gas from older fields. There is no fixed ratio of increase and many conditions may influence gasoline contents of the gas that are controllable by the production men on the lease. In other words the method of producing the oil may play an important part in determining the gasoline content of the gas which is produced along with the oil.



Wiggins Pontoon Roof Tanks at Great Lakes Pipe Line Terminal, Franklin Park, Illinois.



"....Wiggins Pontoon Roof Tanks make good Blending Tanks....."

THE tanks pictured above are used for handling motor gasoline at a mid-western pipe line terminal. They are also blending tanks for making up batches of fuel to meet customers' specifications for weight, color, rating, etc., *and because they are equipped with Wiggins Pontoon Roofs, they do both jobs well!*

To a considerable degree, this installation duplicates dozens of others throughout the country. Each tank is equipped with a pipe spider. Projecting from this spider are nozzles which direct jets of incoming flow up through the liquid in the tank. With the aid of a pump, natural gasoline, anti-knock compound and color can be added and the mixture re-circulated until a thorough blend is obtained. The desirable features offered by this kind of a set-up merit the careful consideration of anyone contemplating blending operations. Following is a brief summary of the principal advantages:

1. *More positive circulation.* Instead of merely rising to surface, jets of incoming liquid strike the underside of the floating roofs and are deflected (see diagram above) causing circulation through entire tank. Reports indicate worthwhile reductions in pumping time necessary.

2. *Suitable for any size batch.* Regardless of how full the tank may be, the Pontoon Roof always rides on the surface to promote better and faster circulation.

3. *Reduces vaporization.* Jets rising to top of a free liquid surface tend to cause bubbling. There is no vapor space under a Wiggins Pontoon Roof to permit this.

Companies interested in working out the most practical and economical arrangement of tanks for blending purposes are invited to consult our engineers. Address our nearest office.

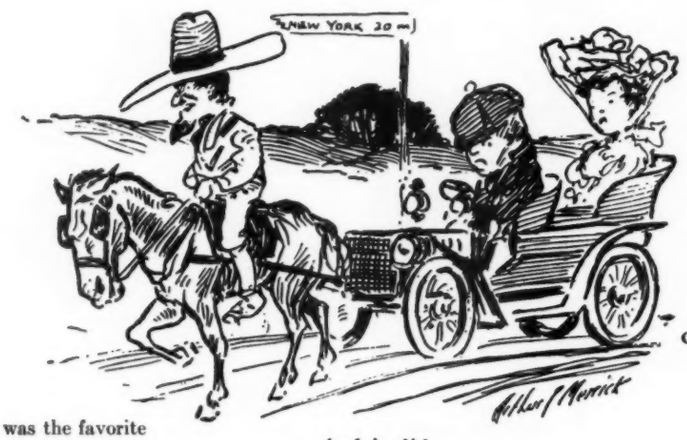
CHICAGO BRIDGE & IRON WORKS

Dallas	1241 Dallas Athletic Club Bldg.	Cleveland	2204 Rockefeller Building
Houston	2919 Main Street	New York	3147-165 Broadway Building
Tulsa	1606 Thompson Building	Philadelphia	1615-1700 Walnut Street Building
Birmingham	1536 North Fiftieth Street	Boston	1517 Consolidated Gas Building
Chicago	2128 Old Colony Building	San Francisco	1054 Rialto Building
Detroit	1514 Lafayette Building	Los Angeles	1423 Wm. Fox Building

Fabricating plants in Birmingham, Chicago and Greenville, Pa.

"IT COULDN'T HAPPEN"

"Yes, the automobile is bound to succeed the horse."



Courtesy of MOTOR

And it did.

..but it did!

"GET A HORSE!" was the favorite jeer at the pioneer motorist. It took courage to sit behind the wheel of an automobile in 1900—and it took patience to put up with the innumerable breakdowns. The early automobiles seemed to be more trouble than they were worth. But every year has seen important improvements through the application of new principles in design and manufacture, leading up to the efficient and reliable machine of today.

Modern automobile engines are designed to use gasolines of higher octane rating. This tendency toward less stable fuel has complicated the problems of refining and storage. The use of antioxidants in stabilizing highly cracked gasoline enables the refiner to manufacture a high yield of a fine quality gasoline, avoiding loss of yield, lowered octane value, and damage to plant equipment which result when conventional methods are used.

Many refiners are enjoying increased profits from higher yields by using Du Pont Gasoline Antioxidants to prevent gum formation and maintain anti-knock quality. E. I. du Pont de Nemours & Co., Inc., Organic Chemicals Dept., Wilmington, Delaware.

DU PONT
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DU PONT
GASOLINE ANTIOXIDANTS

Inhibit Gum Formation
Reduce Acid Treatments
Maintain Anti-Knock Quality
Prevent Color Loss
Increase Yields of Gasoline
Assure Stabilization
Protect Plant Equipment

GASOLINE ANTIOXIDANTS

QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph.D., Technical Editor

DeFlorez Predrilling Method for Inspecting Pressure Equipment

What is the DeFlorez Method for inspection of refinery stills, towers, etc.?—N. L. A.

The rate of corrosion of refinery equipment, especially pressure vessels, has a very important relation to the safety of life and the reduction of the fire and explosion hazard. Predrilling, to prevent a serious condition, is one of the inspection methods and that patented by DeFlorez is used by some refiners. The description of this method used here, is from U. S. Bureau of Mines, T.P. 551, Safety at Petroleum Cracking Plants, by R. L. Marek, page 83.

"The method used and patented by DeFlorez consists of drilling a number of small holes with conical bottoms, one-eighth to one-quarter inch in diameter, at regular intervals around the outside periphery of a container to a depth usually equal to one-half of the original wall thickness of the vessel. It has been determined that the most satisfactory angle of the cone is 30° to 45° with the vertical center line of the hole. The sharp conical bottom of the hole permits leakage to occur gradually when corrosion or erosion thins the walls of the container, thus warning an operator of the impending failure of the equipment. The increasing diameter of the hole insures the dislodging of any obstruction which may form in the hole and interfere with the leakage of liquids or vapors from the vessels. DeFlorez states:

"This method is not to be considered as a substitute for customary precautionary or inspection methods but is to be used as an additional measure of safety to life and property, to supplement the inspections now employed by every refiner. Employment of the idea by refiners before they are thoroughly acquainted with its principles and the proper manner of drilling and spacing may easily result in defeating its purpose. Too great a reliance on the plan to the exclusion of all other safety measures should not be permitted."

Properties Indicating Fire and Explosion Hazards

What characteristic is considered to be the most reliable as showing the fire and explosion hazards of petroleum liquids?—S. W. P.

There is no one property that may be depended upon, without the support of other information, for indicating the tendency for petroleum liquids to ignite or to form explosive mixtures with air. Probably the flashpoint is more often used than others but to be positive it is best to consider a combination of properties, such as gravity A.P.I., flashpoint, vapor pressure, volatility and actual tests for flammable and explosive limits. A brief discussion of each of these will make it clear why the combined data are relied upon.

The A.P.I. gravity serves as an indication of weight, the heaviest liquids having an A.P.I. gravity of 10, which is the same as water. Most kerosenes now marketed range in gravity from 40 to 45 and the gasolines between 55 and 65. Some of the lightest petroleum liquids, the special solvent naphthas, have A.P.I. gravities in the 70's and 80's. The boiling point and other volatility characteristics frequently change with the gravity and always do over a wide range but may not when there is only a narrow spread. The lightest, the higher A.P.I. gravities, ignite at the lowest temperatures and the heaviest, the lower A.P.I. gravities, do not easily ignite.

Flashpoint means the temperature to which it is necessary to heat a liquid to give off particles fast enough to produce a sufficient volume to form a flammable or explosive mixture with air, when a spark or a very small flame is introduced into the mixture. The flashpoint of kerosene is fixed by law in many states, the minimum being 100° F., and some states require 150° F. as the minimum.

The tendency of a part of a liquid to escape from the surface into the space above is termed vapor pressure. This is a definite value for any specified liquid at a fixed temperature. Some particles are being separated from all liquids even at extremely low temperatures, but when the liquid is heated the quantity of particles escaping increases. A low flash-high vapor pressure product may produce too much vapor to make an explosive mixture, but a high flash-low-vapor pressure product may release the relatively small volume of vapor required to bring it within the explosion range. A tank holding a small quantity of heavy oil may be more hazardous than one containing an equal volume of gasoline, which usually gives off a large volume of vapor to the exclusion of the required percentage of air.

The test for volatility is by distillation. This permits the determination of the initial boiling point, percentage fractions and the final boiling point. The vapors from petroleum are to a large extent heavier than air, so they pour over the rim of a container and will flow along the ground. Volatility therefore indicates the ease with which a liquid may be changed into vapor.

Flammable and explosive limits are related to the principles of combustion, which explains that there is a concentration below which a substance will not burn when mixed with air. There may be one extreme with not enough combustible material, and the other when the concentration of combustible matter is so high that there can be no combustion because the required quantity of air (oxygen) is lacking. The flammable and explosive limits are expressed in terms of percentages of the vapors in air and may vary from 2 to 15 per cent.

SPECIFICATIONS

ASPHALT EMULSION, SLOW BREAKING TYPE

Shall be homogeneous, miscible with water in all proportions, shall show no separation of asphalt after thorough mixing within 30 days after delivery. No separation while being mixed with clean, wet, broken stone.

Distillation by weight:	Per cent
Oil distillate to 500° F., max.	2.0
Residue at 500° F., min.	68.0
Residue shall meet:	
Specific gravity 77° F. not under	1.0
Softening point, °F.	95-131
Penetration at 77° F., 100 g., 5 sec.	100-150
Bitumen (sol. in CS_2) min. per cent	95
Ash, max. per cent	1.5

The material is for use with stone or clay and sand for the repair of breaks, holes, depressions in bituminous type roads and for resurfacing.

Reference: Federal Standard Stock Catalog. Sec. 5, Part 5, SS-A-681.

Liquid and Solid Carbon Dioxide Has Varied Commercial Uses

We are getting ready to develop a structure in New Mexico producing a large volume of carbon dioxide and would like to have some information regarding the different products that can be made from this gas and its use. We are informed that it is valuable for the manufacture of dry ice but we are wondering what other use may be made of this carbon dioxide gas.—L. W. T.

The carbon dioxide of commerce, both liquid and solid, is derived from several sources. It is a by-product in the manufacture of coke; also, the chemical, fermentation and lime industries produce large quantities. The gas from these industries has two advantages over that from natural wells: purity and nearby markets. The carbon dioxide from wells has been reported to contain traces of hydrocarbons that are difficult to remove. The industries producing the material as a by-product are located close to large cities, where there is a ready market.

The U. S. Bureau of Foreign and Domestic Commerce estimates that 90 per cent of the liquid carbon dioxide is used for carbonating beverages. The low boiling point, 108° F., causes it to develop a pressure under normal conditions which may be conveniently utilized in spray painting and cleaning, also as a source of power for propelling torpedoes. In the mining of coal it serves as an explosive. The food industries use the liquid and solid as a cooling medium. It is a good fire extinguisher. Another use is for the manufacture of chemicals. The solid is used chiefly in the storage and transportation of ice cream, and various perishable products.

The solid and liquid evaporates without residue, so is more satisfactory than ice under some conditions. An example is its use for freezing the parts in minor surgical operations.

One pound of carbon dioxide has about the same refrigerating value at 32° F. as two pounds of ice.

Reference: H. O. Morow, Carbon Dioxide and Solid Carbon Dioxide, U. S. Bureau of Foreign and Domestic Commerce, 1931.

Analyses of Crude Petroleum From Ten Section Field, California

Will you if possible kindly furnish information showing the quality of the crude oil produced in the Ten Section field, California?—A. T. R.

OIL FROM TEN SECTION FIELD

Location of well, No. 1-A Stevens, Ten Section, Calif.

Gravity, A.P.I.	61.4
Sulfur, per cent	0.04
Color, A.S.T.M.	1
Vapor pressure, pounds per square inch	14
Distillation:	
Initial, °F.	88
50 per cent	242
90 per cent	484
Gasoline yield:	
S.R. 400° F. max., per cent	83.16
Gravity, A.P.I.	61.8
Color Saybolt	30+
Sulfur, per cent	0.02
Doctor test	Negative
Octane No., A.S.T.M.	62.5
Initial	108
Final	395
Residue, per cent	11.25
Gravity, A.P.I.	34.3
Sulfur, per cent	0.32
Viscosity, S.U. at 100° F., sec.	40

This oil, run for 350° F. S.R., yields 76.85 per cent, having a gravity of 63.6, an initial of 105° F. and a final boiling point of 348° F.

have *Exceptional* dimensional accuracy and uniformity

IF the man who actually does the pipe welding bought the fittings, dimensional accuracy and uniformity would receive much more consideration than is frequently the case. Any pipe welder will tell you that these features are most important because they save time (and therefore money) in lining-up the pipe and fitting, and in the welding . . . they also assure more uniform welds.

As illustrated by the close-up photograph of the sizing press, every Midwest Welding Ell is reduced to accurate size and shape by final working of the metal in compression at a forging heat . . . it is not extruded or stretched. This positive control provides (1) true circular cross section, (2) uniform wall thickness, and (3) accurate radius, included arc and tangents.

Unique fixtures used to machine bevel the ends assure an included angle of exactly 90° or 45°. Inspection is rigid and every Ell is subjected to a severe hydrostatic test.

Ask for a copy of Bulletin WF-36 which explains the many other features of Midwest Welding Ells.

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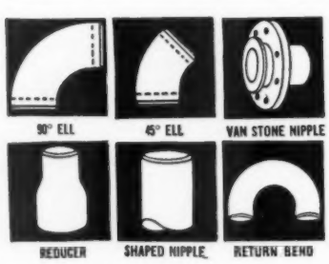
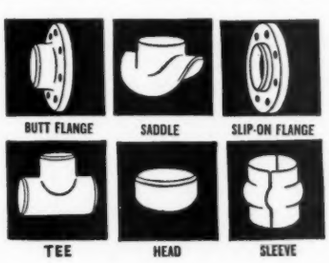


MIDWEST
WELDING FITTINGS
IMPROVE
PIPING DESIGN AND
REDUCE COSTS



FIELD OPERATIONS

Summarizing the Week's Developments

While 385 oil wells, 55 gas wells and 111 dry holes were completed in the United States in the past week, an increase of 67 oil wells, nine gas wells and six dry holes over the preceding week, no very important new pools were opened and some of the discovery wells of the previous week were yet incomplete.

OKLAHOMA

Another gigantic oil well in Oklahoma was reported in the Crescent pool in Logan County in the last week, starting at 8,947 bbls. in 4 hours or at the rate of 53,640 bbls. per day. It produced gas at the rate of 74,750,000 feet per day. In the Edmond field in Oklahoma County a 10,907-bbl. potential producer was completed. The Jesse pool in Pontotoc County was extended into Coal County and a wildcat in Murray County was showing oil in Hunton lime.

KANSAS

One hundred and fifteen operations have been started in 19 counties in Kansas in the past two weeks. A wildcat in far southwestern Clark County flowed 33 bbls. of oil and a little water in a 30-minute drill stem test from Viola lime at 6,467-94 feet, making it Kansas' deepest producer. It is about 40 miles southeast of Dodge City.

ARKANSAS-LOUISIANA

Arkansas took the limelight away from North Louisiana with an important discovery in Woodbine sand on the flanks of the old Irma field in Nevada County. The well is not a completion, but appears to be good for 250 bbls. of oil per day. The conservation movement in the Rodessa field, which prohibits the waste of gas, has a tendency to reduce the production per well especially on the Louisiana side where with an allowable of 225 bbls. per well the average production is only 179 bbls. per well. Fifty-eight wells in the Rodessa field are reported as showing some water, 49 of these on the Louisiana side. The discovery well in the deep Trinity on the flanks of the Sligo gas field is not completed but is flowing 250 bbls. per day through one quarter-inch choke.

TEXAS

The important Schleicher and Cochran County tests, in West Texas, the former an Ordovician test and the latter a pool opener, are not yet completed. An outpost in Ector County appears to have extended the Cummins pool 2½ miles, if it has not opened a new pool. New wildcat tests have been started in Terry, Dawson and Gaines counties in western Texas and in Denton County in northeastern Texas.

In Southwestern Texas a new pool recently opened in Goliad County has been named the Weser pool. Minor pool extensions in the Saxet, Lopez and McCampbell pools were the best the area could offer in the past week.

Prospects of opening flank production in the Clay Creek and Sour Lake fields in the Texas Gulf Coast were given a setback when water showed in two tests that had looked promising.

ROCKY MOUNTAIN FIELDS

Gulf Oil Corp. announces it will drill a test to Granite in Kiowa County, eastern Colorado, which gives that big area another opportunity to show whether or not it is oil country. The Kevin-Sunburst field in Montana furnished a surprise in the shape of a 260-bbl. well.

CALIFORNIA

The future of the Ten Section field in Kern County, California was at a critical stage as two tests, following the discovery well, were not giving favorable indications even though they were below 8,900 feet.

Completions in All Fields

(Week Ending October 24, 1936)

	Oil	Gas	Dry	Total	1936 total comp. to date	1935 total comp. to date
Penna. Grade Fields	72	15	9	96	2,797	2,420
Lima Field	0	0	0	0	75	81
Central Ohio	3	10	6	19	311	261
Indiana	0	0	0	0	147	172
Illinois	0	0	0	0	26	11
Michigan	7	7	4	18	530	462
Kentucky	11	0	1	12	227	204
Kansas	34	2	8	44	1,340	1,003
Oklahoma	34	2	10	46	2,019	1,640
North Central Texas	25	0	19	44	2,027	2,143
West Texas	32	0	7	39	1,249	661
Texas Panhandle	6	3	0	9	534	581
East Central Texas	4	1	5	10	298	199
East Texas	41	0	4	45	2,068	3,596
East Texas border	2	2	1	5	86	8
Gulf Coast Texas	20	0	5	25	960	856
Southwest Texas	46	7	13	66	2,415	1,249
Total Texas	176	13	54	243	9,637	9,320
North Louisiana	8	3	0	11	526	260
Gulf Coast Louisiana	4	0	3	7	298	291
Total Louisiana	12	3	3	18	824	551
Arkansas	0	0	1	1	73	101
Montana	6	1	2	9	190	148
Wyoming	1	0	0	1	83	68
Colorado	0	0	0	0	22	14
New Mexico	13	2	2	17	487	262
Utah	0	0	0	0	5	5
California	16	0	11	27	1,001	920
Total United States	385	55	111	551	19,794	17,616
Total previous week	318	46	105	469		
Difference	67	9	6	82		

Outstanding Fields—Highlights

(Week Ending October 24, 1936)

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
Anahuac	4	4	4	1,445	127	8,570
Hastings	4	7	2	1,170	103	9,678
Loma Novia	4	4	4	990	601	14,790
Seven Sisters	3	7	4	1,085	305	7,355
Saxet Heights	1	11	2	320	179	19,100
Saxet	5	29	8	1,040	245	8,585
Lopez	4	7	11	4,920	207	5,095
East Texas	48	113	41	1,447	21,547	446,587
Talco	19	24	4	475	84	8,350
OKLAHOMA						
Oklahoma City	2	11	2	701	1,104	151,200
Fitts	10	51	5	2,788	467	68,575
Burbank-So. Burbank	1	8	4	1,506	2,169	22,450
KANSAS						
Ellis County	3	25	1	210	57	3,910
Reno County	4	26	4	547	330	16,250
Russell County	5	42	7	8,333	490	22,025
Rice County	10	36	8	7,440	606	37,720
NEW MEXICO						
Lea County	8	83	11	7,945	462	77,230
LOUISIANA-TEXAS						
Rodessa, La.	4	25	5	3,960	308	55,100
Rodessa, Tex.	9	51	2	1,560	73	15,470
Gillis, La.	2	6	0	0	47	16,837
Tepetate, La.	1	4	0	0	33	5,337
MICHIGAN						
Porter-Yost	5	10	1	260	415	14,982
Crystal-Montcalm	5	9	2	257	144	4,190

California Field Report

By
L. P. STOCKMAN

NEW WELLS IN TEN SECTION POOL REACH CRITICAL STAGE

LOS ANGELES, Calif., Oct. 26.—On November 3 the California electorate will render a decision which may ultimately become of considerable importance to the oil industry, especially with respect to future tideland drilling. Proposition No. 4 among other things provides that wells must be drilled on the uplands, and definitely prohibits interference with bathing, fishing and navigation by tideland development and stipulates that revenues accruing to the state must be devoted equally between the general fund and a program for the purchase of additional state parks and benches. An existing statute prohibits tideland drilling and thus proposition No. 4 ostensibly will make this practice legal again by specifying that "the derrick, machinery and any and all surface structures, equipment and appliances shall be located upon the littoral uplands."

Under this proposed measure, the state must issue a lease upon written application to anyone owning land bordering on state tidelands for the purpose of exploiting state-owned submerged pools or zones by directional drilling. The state would receive 14 2/7 per cent royalty and the littoral landowner an additional royalty on all oil or gas produced. Residents of the city of Redondo Beach, by a vote of 1,917 to 1,031 at a special election last week, declined to lift drilling restrictions in the Salt Lake tract, which lies between Pacific Avenue and the north city limits. This is the second time that such a proposal has been defeated. Another measure on the November ballot which may ultimately affect the oil industry in California is the so-called sales tax measure. This bill specifically exempts service stations from the tax imposed on chain stores but might be amended later to include service stations if approved in its present form.

Revenues Derived

Under provisions of an existing statute which prohibits tideland development but which permitted the consummation of leases between the state and operators of wells already drilled beneath tideland property, the state of California received at the end of the last fiscal year $665,826 in royalties from oil wells which had been whipstocked under the tidelands bordering Huntington Beach. The wells in question are from one to three blocks back from the ocean along a frontage of half a mile. This amount does not include royalties from the Standard Oil Co., which has wells bordering the ocean front, because the state and Standard officials have come to no agreement, as all of Standard's wells were not deliberately deviated to intercept the productive zone. The sum of $484,908 of the $665,826 collected was for oil royalties, while $59,973 was for dry gas and $120,945 was for natural gasoline.

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

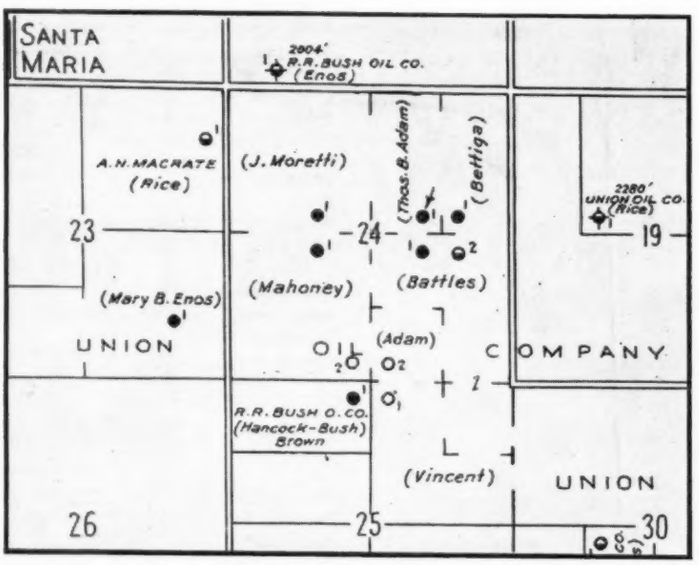
	October 11		October 4			
Intercoastal-domestic:	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Diesel and gas oil	.....	.....	.....	.....	151,541	527,098
Gasoline	.....	.....	234,465	33,495	5,295,506	6,160,890
Kerosene	.....	.....	.....	.....	968,157	753,457
Foreign exports:						
Crude oil	170,409	24,344	80,926	11,561	7,471,122	10,423,702
Fuel oil	167,294	23,899	115,794	16,542	8,204,701	9,692,158
Diesel and gas oil	139,495	19,928	103,359	14,766	4,484,701	3,550,307
Gasoline	191,367	27,338	365,529	52,218	6,194,991	5,238,143
Kerosene	.....	.....	57,601	8,229	1,254,659	962,910
Other unfinished oil	.....	.....	.....	.....	132,908	99,847
Coastwise-domestic:						
Crude oil	195,414	27,916	316,448	45,207	5,567,912	5,343,390
Fuel oil	370,243	52,892	260,292	37,185	8,345,357	7,526,067
Diesel and gas oil	32,188	4,598	25,626	3,661	935,406	1,022,744
Gasoline	183,063	26,152	142,257	20,322	9,880,417	8,743,175
Kerosene	4,491	642	.....	.....	143,305	149,897

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic:						
Diesel and gas oil	.....	.....	.....	.....	.....	158,152
Gasoline	.....	.....	.....	.....	227,419	.....
Kerosene	.....	.....	.....	.....	.....	149,715
Asphalt	.....	.....	.....	.....	267,431	420,414
Lubricants	.....	.....	.....	.....	43,543	57,325
Foreign exports:						
Crude oil	27,864	3,981	80,214	11,459	2,465,113	1,893,252
Fuel oil	91,194	13,028	20,148	2,878	2,218,439	1,817,404
Diesel and gas oil	115,639	16,520	.....	.....	1,560,291	904,651
Gasoline	160,244	22,892	.....	.....	2,991,074	2,374,971
Kerosene	8,112	1,159	.....	.....	554,531	627,396
Lubricants	4,797	685	.....	.....	273,237	173,507
Other unfinished oil	.....	.....	.....	.....	90,923	.....
Coastwise-domestic:						
Fuel oil	66,909	9,558	.....	.....	5,270,019	5,447,350
Diesel and gas oil	36,497	5,214	14,976	2,139	566,855	175,932
Gasoline	120,025	17,146	190,350	27,193	4,114,358	3,485,599
Kerosene	7,481	1,069	.....	.....	165,498	76,785

The Den Decision

Protection against so-called shore line title raids has been afforded to many millions of dollars worth of property along the California coast from Monterey to the Mexican border in a decision in the Den case rendered by Judge F. M. Jamison of Modoc County. In April, Judge Jamison, sitting in the Santa Barbara superior court, heard a suit brought by Alfred S. Den and others against S. M. Spaulding of Tecolote Ranch and Pacific Western Oil Co. The decision made public by Attorneys Francis Price and Clarence Rogers favors the defendants. This suit, like many others brought against titles along the Southern California shore line, was based upon the declaration that when the famous old Spanish grant rancho of Nicholas Den was distributed to the heirs after his death the description did not include narrow strips of beach property between the ocean and straight lines from point to point which were set forth in the distribution surveys. Spaulding had leased the coast line of his Tecolote ranch to Pacific Western Oil Co. The complaint declared that millions of dollars were owing to the heirs of the Den estate both for oil taken and damage done to the property by drilling. In view of the immense sums said to be involved it is expected that Judge Jamison's decision will be appealed.



Union Oil Co. has discovered a prolific field in the Santa Maria Valley. Its No. 1 Adam, in section 24-10n-34w, was completed flowing 2,200 bbls. daily. It stands between a small pumper and a dry hole, but Bush-Hancock No. 1 Brown is flowing 3,000 bbls. per day

Ten Section

Drilling operations in the Ten Section field of Kern County have reached the critical point as far as Standard Oil Co. No. 10-1 K.C.L. in section 20-30-26 and Ohio Oil Co. No. 1-E K.C.L. in section 19-30-26 are concerned and unless some favorable indications are logged in the immediate future these outposts will take on a rather dubious outlook. Shell Oil Co. No. 6-29-A K.C.L. in section 29-30-26 has been plugged back from 8,984 feet to 8,372 feet and present plans call for a production test to be made on a 70-foot interval at 8,302-75 feet. The coring of a possible water sand below 8,372 feet was responsible for the company's decision to plug back. It is the present intention to test out the bottom part of the hole to determine its production possibilities, as the company has logged approximately 500 feet of prolific oil sand higher up in the hole and consequently can develop substantial production by plugging back and perforating casing if the lower portion of the hole proves to be wet. No. 6-29-A, Shell's second well in the Ten Section field of Kern County, was carried down to 8,984 feet for exploratory purposes and consequently the pending production test in the lower part of the hole may not necessarily represent the well's maximum potential daily production.

Ohio Oil Co. No. 1-E on Kern County Land Co. property in section 19-30-26 appears to be correlating approximately 410 feet lower structurally than the Shell Oil Co. discovery well in the Ten Section field and consequently does not look promising, as the latter's second well in this field appears to be 100 feet higher stratigraphically than the discovery well. Standard Oil Co. No. 9-1 K.C.L. in section 34-30-26, located south of the Shell's development work, is not yet deep enough to permit close correlation work. Standard No. 10-1 K.C.L. and Ohio No. 1-E K.C.L. are located north of Shell's discovery well in the Ten Section field. Superior Oil Co. recently spudded in its No. 8 K.C.L. in section 11-30-26. British American Oil Co. staked location on the Button-

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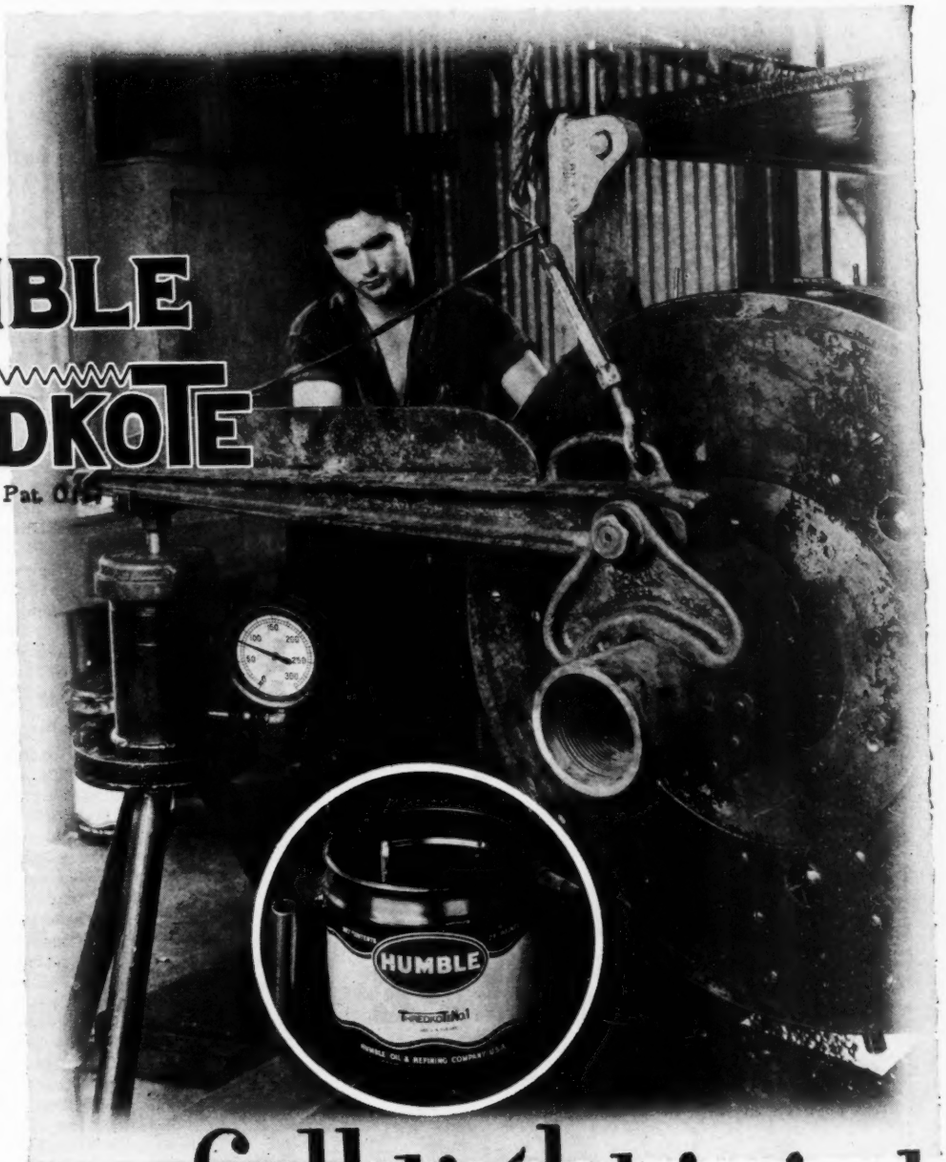

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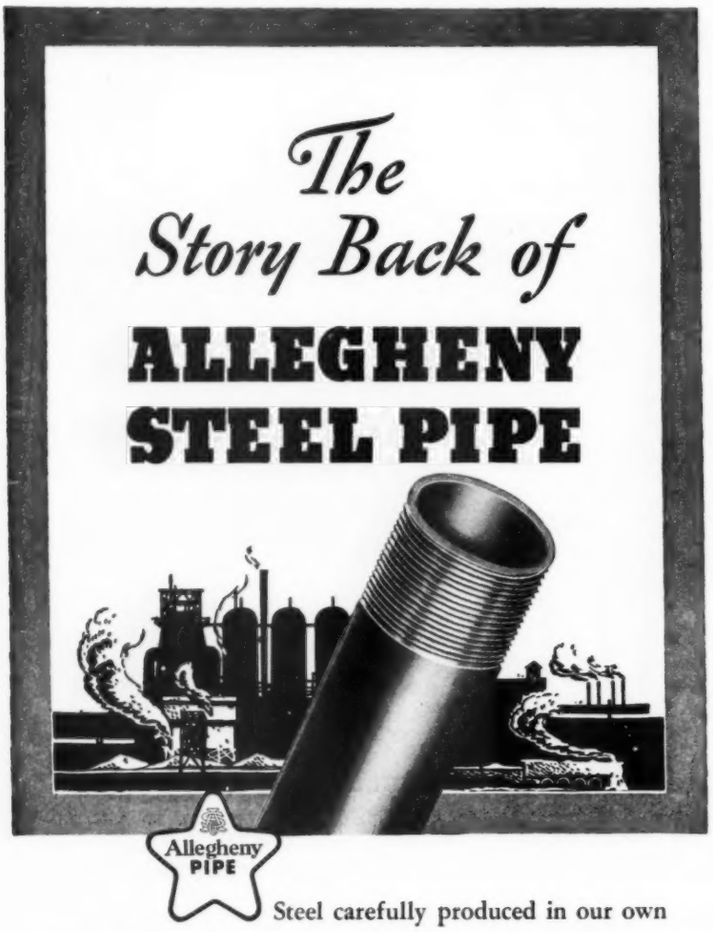
HOUSTON, TEXAS

willow-Ten Section trend for No. 1-A Smith in section 21-30-27, 8 miles southeast of Shell Oil Co. discovery well in the Ten Section field.

Arvin

The Arvin district of Kern County took on an unfavorable aspect during the past week and this area, located southeast of the Mountain View field, is not expected to sustain a southeastern extension of Mountain View. Shell Oil Co. No. 1 Greer, in section 15-31-29, drilled into Schist at 6,158 feet and appears headed for an early abandonment, although the company may test out a few minor showings. Associated Oil Co. No. 2 DiGiorgio in section 3-31-29 drilled into Schist at 5,630 feet and the hole has been plugged back to 5,425 feet, at which point 55 feet of 8⅝-inch liner have been landed preparatory to testing out some minor showings logged during the course of drilling. Mohawk Petroleum Co. No. 2 Earl Fruit, in section 10-31-29, has been bottomed at 6,002 feet.

Reserve Oil & Gas Co. is still working on Nos. 33-1 and 33-2 in the Tejon ranch district of Kern County but has not yet succeeded in developing sustained production. Both wildcats logged oil and gas showings. No. 33-2 showed indications of being good for approximately 100 bbls. per day from 4,518 feet, but mechanical problems and difficulty with sand have retarded progress during the past several weeks. It appears likely that another test will have to be drilled in order to definitely determine the potentiality of this area. South of the North Belridge field, Rio Grande Oil Co. has abandoned No. 1 Lehman in section 18-28-20 as unproductive at 2,648 feet. This outpost encountered top of the Eocene at 2,624 feet. In the North Belridge field, Continental Oil Co. completed an excellent producer when No. 8 Result was brought in flowing 4,740 bbls. of clean 38.2 gravity oil and 4,900,000 feet of gas per day from 8,412 feet. Associated No. 5 Reward, in section 34-27-20, is rotating ahead in the pay at 8,430 feet and unless something unforeseen develops at the last moment this potential producer should be tanking oil within the next fortnight. Belridge Oil Co. is working on three new wells in this field at the present time but it should be another 30 days before they pick up the top of the productive Eocene.



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Lost Hills

Developments in the Lost Hills district of Kern County were of a rather unfavorable nature during the past week and it may require the completion of several additional producers in the Williamson or northwestern extension of the field to revive interest in the possible productivity of this area. Interest cooled off a few days ago when the Texas Co. No. 1 Theta in section 11-26-20 went to water after having shown a relatively small initial daily production of heavy gravity oil from 2,037 feet. On top of this unfavorable development, Associated Oil Co. suspended No. 1 Taylor in section 1-26-20 at 5,904 feet due to the unfavorable outlook. Associated No. 12-3-A Williamson in section 11-26-20 was pumped dry at 1,675 feet and this project has been put on the suspended list. Lincoln Petroleum Co. No. 2 Theta encountered a gray water sand at 2,507 feet and the hole has been plugged back in order to test out approximately 75 feet of good looking oil sand logged at 2,224-99 feet. Standard Oil Co. has written finis to its attempt to develop commercial production on the United lease in section 2-26-20 by abandoning this deep test as a duster at 6,887 feet.

The Texas Co. completed its No. 16 in section 32-32-24 in the Midway-Sunset field of Kern County a few days ago and this new well was brought in pumping 465 bbls. of 22.9 gravity oil cutting 5 per cent. This new producer was bottomed at 3,037 feet and finished with a 6⅝-inch liner carrying 158 feet of perforated. North American Oil Consolidated No. 3 in section 2-32-24 registered an initial daily production of 118 bbls. from 4,086 feet after the hole had been plugged back from 4,155 feet due to bottom water. The output of this new well, which was finished with a 6⅝-inch liner carrying 117 feet of perforated, is relatively clean and tests 27.4 degrees A.P.I. Immediately upon completion of this new well, the crew was transferred to No. 4 and at last reports rotary drilling equipment was being rigged up preparatory to an early spud. Berry & Ewing completed No. 3 in section 31-32-24, but this new producer was good for only 50 bbls. of 17.6 gravity oil daily when put on the beam following completion at 1,150 feet. Burkholder Oil Corp. No. 2 Orloff, in section 23-32-23, was brought in pumping 12 bbls. of 15.3 gravity oil per day from 1,210 feet after the hole had been completed with a 6⅝-inch liner including 118 feet of perforated. The company is rigging up rotary drilling equipment in No. 1 Orloff preparatory to a resumption of drilling operations at 2,536 feet. Chanslor Canfield Midway Oil Co. has Nos. 20 and 21 in the oil sand and both of these potential producers, situated in section 21-32-23, should be ready for a production test within a fortnight.

Mountain View

Shell Oil Co. completed an excellent producer in the Mountain View field of Kern County during the early part of the current week when No. 2-11 Porter was brought in flowing 1,650 bbls. of clean 28.6 gravity oil and 700,000 feet of gas per day from 6,049 feet after the hole had been finished with a 6⅝-inch liner including 260 feet of perforated. Hogan Petroleum Co. No. 7 Wharton in this field was brought in flowing 498 bbls. of clean 29.9 gravity oil and 2,360,000 feet of gas per day from 5,753 feet. This new well was finished with a 5¾-inch liner carrying perforations at 5,430-63 feet, 5,634-64 feet and at 5,732-52 feet. In the Fruitvale field of Kern County, Magnet Oil Co. No. 2 Seymour was completed pumping 270 bbls. of relatively clean 26.8 gravity oil per day from 4,155 feet after the hole had been finished with a 6⅝-inch liner carrying 202 feet of perforated. Dixie-Lee Oil Co. No. 5 Seahawk in this field was good for 164 bbls. of exceptionally clean 19.6 gravity oil per day from 3,186 feet following the landing of 89 feet of 6⅝-inch liner including 32 feet of perforated.

Out on the west front of the Kern River field, Honolulu Oil Corp. No. 89 in section 8-28-27 was brought in pumping 145 bbls. of 16.7 gravity oil cutting 25 per cent following completion at 2,873 feet. Charles Kaar No. 1 Watterson, in section 26-28-27, was completed pumping 115 bbls. of 16.9 gravity oil daily from 2,250 feet but the production of this new well was still cutting 35 per cent at last reports. National Oil Co., which last week completed No. 3 National in section 11-28-27, is building rigs for Nos. 3 and 4 on the Universal's property in this field and these two new wells are scheduled for immediate spud. In the Mount Poso field of Kern County, Bargol Oil Co. No. 3 Newhope in the McVan section of the field has been completed pumping 40 bbls. of 14.2 gravity oil per day from 1,194 feet.

Capitan

The Texas Co. is abandoning No. 1 Rutherford in the Capitan field of Santa Barbara County as a duster at 1,100 feet as the well log indicated the top of the Sypho zone had been encountered at 1,075 feet. Shell Oil Co. has concluded drilling operations on No. 1-16 Covarrubias in this field at 2,487 feet and the well is being rigged up to pump following the landing of a cement plug at 2,360 feet. In the Santa Maria Valley field of Santa Barbara County, Union Oil Co. is building rigs for three first line offsets to a recent completion drilled jointly by the R. R. Bush Oil Co. and the Hancock Oil Co. Considerable interest has been manifested during the past week in E. H. Moore's wildcat on the Anaheim Sugar lease in section 25-10-35 due to authenticated reports that an oil zone of undetermined potentiality has been logged in the Monterey above 7,670 feet. The importance of this oil zone will not be definitely determined until an actual production test has been concluded as the 200-foot interval containing the oil sand consists of oil sand and sandy shale. This wildcat may bear watching, however, as this area has long been regarded as having considerable merit. The Union Oil Co. deemed it advisable a year or two ago to acquire approximately 3,500 acres from the Anaheim Sugar Water Co. and while no plans have been concluded for immediate development the showings found by E. H. Moore tend to indicate that a test will be drilled on this acreage early in 1937.

The Petrol Corp. has moved in a portable drilling outfit in order to fulfill drilling requirements on the

(Continued on Page 115)

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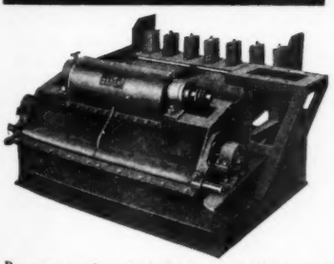

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The latest design in drilling equipment is being rigged up in the Dickinson field in Galveston County by the Edwards Drilling Co. which purchased a heavy duty rig for work in the south extension area for the Coast Petroleum Co. Every unit of the rig is new, including two Gardner-Denver 15x7¾-20-inch mud pumps, a 12x14 drilling engine, three 125-horsepower boilers and a new 136-foot steel Parkersburg derrick with a 30-foot base. This rotary is one of the largest on the Gulf Coast and is capable of drilling to 12,000 feet if necessary. At the old Sour Lake field a smaller rig is on location for the Kirby Petroleum Co. and Woodley Petroleum Co.

T. A. Carlton, president of the C & C Drilling Co., who drilled numerous discovery wells along the Gulf Coast has sold his rigs and will devote his time to the producing end of the business after taking a well-earned vacation. During the time he was in the contracting business, Mr. Carlton developed some nice production for himself in the East Texas, South Houston and Ace fields.

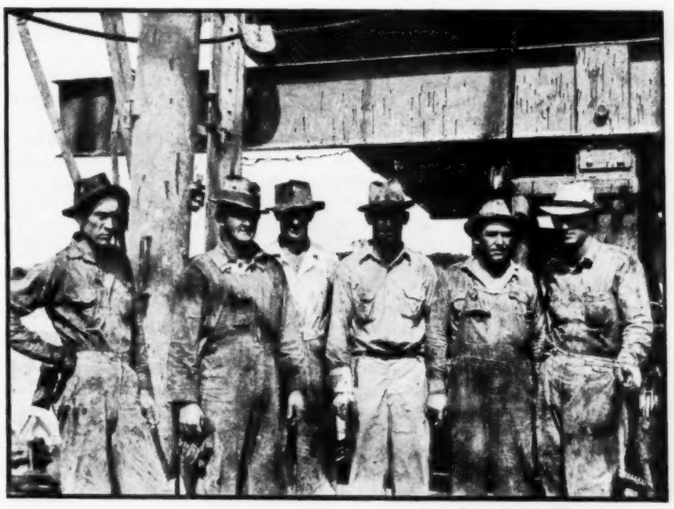
With approximately 12 more wells to be drilled in the South Houston field in Harris County the active drilling campaign which made that area one of the most active in the district during the past several months is gradually coming to a close. Sixty producing wells have been completed and all of them have been drilled by Gulf Coast drilling contractors, consequently unless some new flush production is developed, it is possible that several of those rigs now running will have to be staked. During the past several weeks there has been a lull in drilling activity in proven and wildcat areas and it is believed that no increase in operations will be shown until after the first of the year. This condition not only exists in the Gulf Coast district but also to the Southwest district where numerous contractors report several rigs stacked due to the decrease in operations.

Gulf Coast contractors are watching with much interest the outcome of the present deep drilling program in Coastal Louisiana where no less than five tests are drilling below 9,200 feet. Probably the most interesting of these are Texas Co. No. 5 Rigolettes Fur Co. in the Lafitte field in Jefferson Parish drilling below 10,800 feet and Continental Oil Co. No. 1 Hebert in Vermilion Parish which reached a total depth of 11,732 feet, before sidetracking, due to a fishing job caused by excessive gas pressure at that depth. Both of the wells are seeking production from the Frio formation and should they be successful, it will undoubtedly result in a deeper drilling campaign throughout the entire district. With the exception of the Texas Co. well, practically all of the deep holes are being drilled by contractors.

Ben (Bud) Coyle has received contract from Mike Hogg and others to drill No. 2 Laws Realty Co. in the Charenton field in St. Mary Parish where he has three more rigs operating for Mike Hogg and the Herton Oil Co. One string of tools is drilling No. 1 State in the center of Bayou Teche while the other two are located at Jeanerette for the Herton Oil Co.

W. H. Harrison Drilling Co. Inc., is pulling screen to rework Texas Crusader Oil Co. No. 1 fee at the Magnet field in Wharton County and is making good progress on three other wells located in that vicinity. Two of the wells are being dug for Texas Crusaders Oil at the Lane City and Pickett Ridge areas while the other is for P. D. Watson located near the discovery well of the Magnet Prospect.

M. J. Welch, with the Texas Pipe Line Co., Tyler, Tex., has been made scout in that district for the company.



Day crew of Smith & McDannald on location at the South Houston field in Harris County where the men are drilling for Stanolind Oil & Gas Co. Standing left to right: John T. Dunford, Grady Beverly, Bob Souther, C. A. Moates, J. H. Luke and T. H. O'Neal (driller)

REED'S
'B-R'
DRILLING BIT WITH
WIRE LINE RETRACTABLE
CORE BARREL

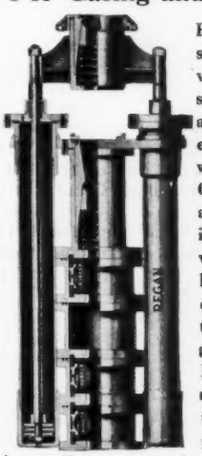
ANY NUMBER OF CORES CAN BE TAKEN (REGARDLESS OF DEPTH) WITHOUT REMOVING THE DRILL PIPE

REED 'B-R' Drill Collar and 3-Blade Drilling Bit With Core Barrel in position

HARD FORMATION HEAD
(INTERCHANGEABLE WITH SOFT FORMATION HEAD)

REED
ROLLER BIT CO.

Regan Combination Oil and Gas Controller and Snubber For Casing and Tubing



Embodies a snubbing device which is self-contained and wholly operated by the well pressure. Casing sizes are also used in conjunction with the Miller method of drilling through sour gas formations. Permits running casing and tubing against pressure, making well surveys under pressure and running graduated strings under pressure.

Ask for details.

Regan
Forge & Engineering Co.
San Pedro California

New York Office: 17 Battery Place, Geo. R. Woods, Mgr. *Kansas and Oklahoma Representatives:* Mid-Co Tool & Supply Co., 1008-12 S. E. 29th Street, Oklahoma City, Okla *Mid-Continent Representatives:* Bettis Sales Co., 516 Merchants & Mfgrs. Bldg., Houston, Texas.

Eastern Field Report

By STAFF CORRESPONDENT

WILL DRILL A DEEP TEST IN OLD BUTLER COUNTY FIELD

PITTSBURGH, Pa., Oct. 26.—A location for a deep test has been made in Butler County, Pennsylvania. American Natural Gas Co. and T. W. Phillips Gas & Oil Co. jointly will drill on the Grossman heirs farm in Franklin Township to the Oriskany sand. The test is about 1 mile south of Prospect at which point on the hard road a local road extends east. The Grossman farm is about a half mile east of the hard road. The location is 400 feet north of the road which is the southern boundary and 400 feet east of the west boundary.

In Southeast Ohio, another location for a deep test has been made which will add to the work already done testing the lower formations and to the three deep tests now drilling. In SW quarter of section 10, Madison Township, Columbiana County, Ray Miller and others will drill on the George M. Eells farm, which is located about 3 miles due northeast of the Oriskany gas well on the Margaret Jenkins farm in section 28.

Forty-four wells were completed in the lower eastern fields during the past week. Eight were dry holes, 15 gas wells, and 21 producers with an initial production of 139 bbls. No deep tests were completed during the week.

SOUTHEAST OHIO

In Athens County, Carpenter & Glazier completed No. 14 John Smith, section 13, Ames Township, in First Cow Run sand at 308 feet. It produced 22 bbls. the first day after shot. In the central part of section 18, Canaan Township, Charles D. Mosher and others completed No. 12 Lena S. Bean in the First Cow Run sand at 276 feet. It produced 2 bbls. the first day after shot. This operator completed No. 11 on this farm at 260 feet and it produced a half barrel the first day, naturally.

In Licking County, Blue Rock Oil & Gas Co. drilled No. 4 C. M. Babcock farm, SE quarter of section 14, Fallsbury Township, through the Clinton sand at 3,025 feet. It had a very light showing of oil and it is undecided whether to shoot.

In Lorain County, Ohio Fuel Gas Co. completed a 247,000-foot gas well on the A. Carpenter farm, section 81, Columbiana County, in Clinton sand at 2,708 feet.

In Medina County, section 8, Liverpool Township, Ed Obermiller completed a second gasser on the F. Wood farm in Clinton sand at 2,881 feet. It gauged 321,000 feet a day.

In Meigs County, C. H. Williamson and others completed a 2-bbl. well on the W. F. Bartels farm in section 31, Sutton Township, in Cow Run sand at 717 feet.

In Muskingum County, the Atha Oil Co. drilled a failure on the W. J. Roberts farm, in section 18, Newton Township, at a total depth of 3,820 feet. In Noble County, Barnesville Development Co. test on the James Danford farm, section 7, Jackson Township, drilled through Berea grit to 1,665 feet. It had a showing of only 10 or 15 gallons of oil a day after the shot.

In Perry County, the Preston Oil Co. completed a small gas well on the M. Stoltz farm, section 8, Reading Township, in Clinton sand at 2,950 feet. In section 4, same township, Hopewell Fuel Gas Co. completed a small gas well on the Thornton Baker farm, drilled in the Clinton sand, total depth 2,920 feet.

In Washington County, there were a large number of small completions mostly in the new shallow pool in the town of Newport. There was one fair producer outside of these. In Muskingum Township, Lot 1, John L. Wagner completed No. 8 Wallace H. Wagner farm in the Macksburg 500-Foot sand at 716 feet. It produced 30 bbls. the first day, naturally.

In section 25, Wayne Township, Columbiana County, the Natural Gas Co. of West Virginia has a fishing job in the deep test on the William Grafton farm which reached within a few feet of the Oriskany sand. There was a cave above the lime which is now being cemented off after which an attempt to recover the tools will be made. This company's test on the Finegold farm in Madison Township has reached the top of the Corniferous lime. Its test on the Albert Ketchum farm is rigging up to drill down to the Oriskany sand.

SOUTHWEST PENNSYLVANIA

One fair producer, two small gas wells, and one dry hole were added in Southwest Pennsylvania during the week. In Amwell Township, Washington County, Bloom and others completed a second test on the W. Dodd farm at a total depth of 2,827 feet. The top of the Fifty-Foot sand was at 2,821 feet with oil at 2,827 feet. It is rated at 35 bbls. a day. This is the first Fifty-Foot commercial oil strike in this section. It is a most unusual section, with its various underlying deposits. There has been oil in the Dunkard, gas in the Murphy, gas in the Gantz, Injun, Thirty-Foot, and now oil in the Fifty-Foot, with some Thirty-Foot gas, and the good Fifth sand oil pool underlying all.

In this township, the Union Gasoline & Oil Corp. drilled a test on the Stephen Day farm through the Fifth sand to a depth of 3,020 feet and it was dry. The Marion C. Johnson test, rated at first as a small producer, is now considered dry.

In Greene County, the Carnegie Natural Gas Co. completed a test on the W. O. Kincaid farm in Richhill Township, at a total depth of 3,613 feet. It is a small gas well from the Thirty-Foot, Gordon and Fifth sands. In this township, the Equitable Gas Co. completed a small gas well in the test on the Rachel McDonal farm at a depth of 3,334 feet. The Bayard sand was at 3,300-02 feet with about 65,000 feet of gas at 3,301 feet.

In Center Township, Greene County, the Mattie I. Scott No. 1 is making about 70 bbls. a day, the J. W. Milliken No. 1 about 85 bbls. a day, and Samuel Harvey No. 9 about 90 bbls. a day. The Carnegie Natural Gas Co. has made a location for a second test on the J. W. Milliken farm located between the No. 1 and the Mattie I. Scott farm line and on a due line of the Samuel Harvey No. 9. The Penn Ohio Oil & Gas Co. has made a location on the J. S. Funk farm just west of the J. W. Milliken farm. On the west side of this farm there were tests drilled which were dry but there is room enough to the east for production to exist.

In this township, but in gas area, the Carnegie Natural Gas Co. made a location on the W. B. Phillips farm. In Wayne Township, H. D. Freeland & Co. is underreaming at 2,080 feet on the D. L. Freeland farm.

In Greene Township, Greene County, Equitable Gas Co. is down 1,720 feet on the Dr. A. R. Core farm. Here Anna L. Garard is drilling at 460 feet on the H. K. Barb farm. In Springhill Township, the McCall Drilling Co. is deepening on the Chambers farm and has reached 2,950 feet. H. E. Milliken is down 2,665 feet on the Peter Bradley farm. Null & Moorhead has reached 1,225 feet on the Hixenbaugh farm.

In Amwell Township, Washington County, Moore-Orrill & Co. shut down at 2,450 feet for engine repairs on the G. L. Walker No. 8. The Carnegie Natural Gas Co. is drilling at 2,160 feet on the N. B. Redd farm; 2,602 feet on the R. M. Carrons farm with 184,000 feet of gas in the Fifty-Foot sand. The Union Gasoline & Oil Corp. has reached 1,430 feet on the Martha Hazlett farm. A. V. Lewis and others are fishing tools in the test on the Mankey farm. The Wise Oil & Gas Co. is rigging up on the C. W. Dunn farm. Bloom & Co. are spudding in No. 3 on the Clyde Hinerman farm.

In Peters Township, Washington County, the Carnegie Natural Gas Co. has a location for a test on the George Douglass farm in gas area.

Deep Tests

The test of William Snee and others on the Summit Hotel property on Chestnut Ridge in South Union Township, Fayette County, is bridging and cementing the hole from 4,300 feet to 4,900 feet, the loose caving shale section. This work is being done in the new hole which is to be carried to the bottom or about 6,611 feet.

In Slippery Rock Township, Lawrence County, the Carnegie Natural Gas Co. is down 3,795 feet in the deep test on the Heichel farm. One mile north of Zelienople in Butler County, the Phillips-Wittmer test on the Paul Fanker farm is drilling at 4,100 feet. The Laughner-Wittmer test on the William Wilsman farm in Independence Township, Beaver County, is drilling at 4,900 feet.

WEST VIRGINIA

There were several small producers completed in West Virginia during the week. In Jackson County the Mountain Iron & Supply Co. completed No. 3 on the J. W. Kelley farm in Washington district in the Salt sand at a depth of 1,655 feet. It is good for 15 bbls. a day.

In Marshall County, the Denver Oil & Gas Co. drilled deeper the No. 1 on the Mary Campbell Mohr farm in Liberty district from the Injun sand at 1,940 feet to a total depth of 2,767 feet. The top of the Fourth sand was at 2,755 feet with about 3 bbls. of oil a day showing at 2,757-60 feet.

In Pleasants County, the Maxwell Oil & Gas Co. completed a test on the Z. T. Jones farm in McKim district at a total depth of 1,628 feet. It is producing 3 bbls. of oil a day from the Maxon sand and has a volume of 300,000 feet a day of gas from the Salt sand.

In Ritchie County, the Chalmers Oil Co. completed No. 17 on the Benjamin McGinnis farm in Clay district in the Squaw sand at a total depth of 1,915 feet. The Squaw sand is showing for 5 bbls. a day with 84,000 feet of gas in the Injun sand. In Grant district on Bear Run, Moats & Richards drilled a second test on the Georgietta Ross farm to 1,995 feet, the Injun sand which was dry. There was production of 1½ bbls. a day in the Maxon sand.

In Wetzel County, the Maxon Oil & Gas Co. completed No. 8 on the Essie L. Bartrug farm in Church district at a depth of 2,214 feet, the Maxon sand, as a 10-bbl. producer. The Pittsburgh Coal was at 1,028-34 feet.

In Wood County, Charles S. Smith completed No. 11 on the Tim McAtee farm in Burning Springs district in the Salt sand at 1,287 feet. It is good for 2 bbls. a day. In Union district, B. L. Burge and others completed a test on the Peter Elliott farm in the Maxon sand at a depth of 1,616 feet as a 1½-bbl. pumper.

Deep Tests

No deep tests were completed during the week in Kanawha County. Several are reaching the Oriskany sand. In Malden district, the Owens-Illinois Glass Co. have reached 5,200 feet in the

(Continued on Page 80)

Oklahoma Operations

By
DAL DALRYMPLE

NEW CRESCENT WELL FLOWS 8,947 BARRELS, FOUR HOURS

Showing of oil in a Murray County wildcat, extension of the Jesse area of Pontotoc County, and completion of big producers in the Edmond and Crescent fields were features of a busy week in Oklahoma oil fields.

Continental Oil Co. No. 4 McConnell, NE SW SE section 28-17-4w, Logan County, flowed 8,947 bbls. of oil in four hours, making potential of 53,640 bbls., making it one of the biggest wells in the Crescent field, which now boasts Oklahoma's biggest gushers. Gas gauged 74,750,000 feet daily. The well was drilled in at 6,295 feet in second Wilcox sand. It is further west than any previous Wilcox sand producer, adding substantially to the prospective productive area in that horizon. The Continental company now has four Crescent wells with a total potential of 122,085 bbls. daily, but with an allowable production of only 2,487 bbls.

In the Edmond field, Oklahoma County, Continental Oil Co. completed another big producer at its No. 12 Young, SE SW NW section 31-14-3w, on the west side of the pool. It flowed 1,817 bbls. in four hours, giving it a potential rating of 10,907 bbls. Gas volume was 15,525,000 feet. It had Wilcox sand at 6,650-99 feet, total depth.

The Jesse pool of Pontotoc County was extended one-half mile to the east at Delaney and others No. 1 Sawyer, SE SE NW section 7-1n-8e, which drilled to 4,524 feet, total depth, and made one flow of oil to near top of the derrick after being bailed down 1,000 feet. The well was shut in, awaiting tankage and connections. It may be deepened a few feet before completing.

Power Oil Co. and others No. 1 Lancaster Trust Co., C SW NE section 10-1s-2e, Murray County wildcat, was given a good chance to open a new pool. It topped Hunton lime at 2,951 feet, and was bottomed at 3,002 feet, getting in saturation and oil shows nearly all the way from top of lime to bottom. It was shut down, awaiting 7-inch casing which was to be set around 2,951 feet. It had not been determined if operators would attempt to complete as a Hunton lime producer or would drill on to Wilcox sand.

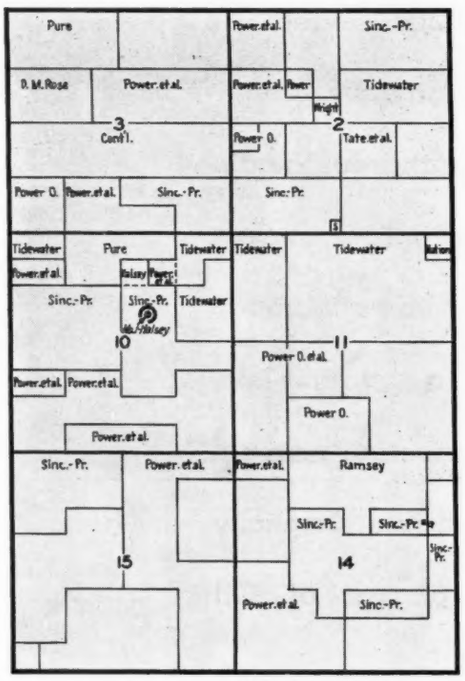
Pontotoc County

E. H. Moore and others No. 1 Cashin, NW NE NE section 32-2n-7, in the Fitts field, Pontotoc County, made potential of 1,059 bbls. after acid treatment and was completed at 4,340 feet, total depth. Top of Viola was 3,755 feet; Bromide, 3,925 feet; McLish, 4,150 feet. Carter Oil Co. No. 10 Harden, NE NE SW section 30-2n-7, topped Hunton lime at 3,247 feet; Sylvan shale, 3,561 feet; total depth, 3,566 feet; was acidized and flowed 306 bbls. of oil in three hours, completed. Magnolia Petroleum Co. No. 6 Harden, SE NE NW section 30-2n-7, was bottomed at 3,788 feet and acidized with 5,000 gallons. It flowed 553 bbls. of oil gross through casing in the first hour, and 117 bbls. through tubing the next hour. Hunton lime was topped at 3,485 feet; Sylvan shale, 3,784 feet. E. H. Moore and others No. 2-A Schauers, SW SW NW section 29-2-7, topped Hunton lime at 3,329 feet; total depth, 3,623 feet; acidized and flowed 285 bbls. in two hours. Sinclair Prairie Oil Co. No. 12 Burris, SE NW NW section 27-2-7, flowed 585 bbls. through casing and tubing in three and one-half hours after acidizing. Top of Hunton lime was 3,372 feet; total depth, 3,483 feet.

Carter Oil Co. No. 8 Harden, SE SE SW section 30-2-7, an old well, was deepened from 4,340 feet to 4,435 feet, made potential of 3,152 bbls. and was recompleted. Benedum & Trees No. 1 Burke, SW cor. section 28-5-5, an old well, was deepened from 2,343 feet to 2,600 feet, was acidized and pumped 60 bbls. of oil in 24 hours. Top of Viola lime was 2,477 feet. E. H. Moore and others No. 9-A Wirick, NW SE SW section 29-2-7, an old well, was plugged back from 4,465 feet to 4,375 feet, shot and acidized, and made potential of 1,260 bbls.

Sands Petroleum Co. No. 1 Harvey, NE SE SE section 21-3-5, wildcat, had a hole full of water and was dry and abandoned at 849 feet, total depth.

New work in Pontotoc County: Continental Oil Co. No. 2 McCarty, NE SE NW section 12-1n-7;



—Mid-Continent Map Co., Tulsa.

Power Oil Co. and others No. 1 Lancaster Trust Co. (Halsey), section 10-1s-2e, Murray County, wildcat, was showing as a probable new Oklahoma pool opener. It was bottomed at 3,002 feet, awaiting casing

old well rigging up to plug back. Burke-Greis Oil Co. No. 6 Chambers, SW NW NW section 36-2n-6; old well deepened from 4,417 feet, shut down at 4,655 feet. E. H. Moore and others No. 1 Waite, NW cor. section 8-2n-7; rigging up rotary. Same operators' No. 1-A Harper, SW SW NE section 29-2n-7; old well plugged back and waiting on cement; the No. 3 Burris, NE NW SE section 22-2n-7, rig; No. 4 Burris, NW NW SE section 22-2n-7, cellar. Fleetborn Oil Corp. No. 6 Morin, NW SE SE section 20-2n-7, rig. Mid-Continent Petroleum Corp. No. 3 McCoy, SW cor. section 20-2n-7, old well deepened and running 5-inch casing. Stahl Petroleum Co. No. 6-B Dennis, NE SW SW section 21-2n-7, rig. H. L. Blackstock No. 5 Moody, NE SW SW section 23-2n-7, correction in location from SW NW SW section 23; same operator's No. 6 Moody, SW NW SW section 23-2n-7, location. Skelly Oil Co. No. 2 Metropolitan Life, NW SE SW section 23-2-7, building rig; same operator's No. 3 Metropolitan Life, NE SE SW section 23-2-7, cellar and pits. John Mabee, Inc., No. 1 Smith, SW SW NW section 28-2n-7, old well plugging back. Benedum & Trees No. 4 Coker, NE NW NW section 31-5-5, rig; same operator's No. 2 Burke, NW SW SW section 28-5-5, old well cleaning out. Louisiana Oil & Refining Co. No. 4 Warfle, SW NW NE section 20-5-8, rig.

Estimated Daily Production

Estimated daily average production of Oklahoma for the week ending October 24 and for the preceding week was as follows:

	Barrels	
	Oct. 24	Oct. 17
Allen	8,450	8,775
Burbank	7,700	7,700
South Burbank	14,750	14,600
Balance Osage	22,000	22,000
Blackwell district	5,300	5,325
Bristow-Slick	8,150	8,175
Chandler	3,875	3,825
Crescent	11,525	8,500
Cromwell	3,525	3,550
Cushing-Shamrock	10,750	10,850
Duncan district	4,050	4,100
Edmond	15,225	13,950
Fish	7,375	7,250
Fitts	68,575	71,825
Gray	1,460	1,375
Graham	4,500	4,700
Healdton	9,350	9,525
Hewitt	4,450	4,500
Holdenville	1,000	1,000
Keokuk	8,875	5,725
Konawa	1,725	1,725
Lucien	12,650	13,125
Marshall-Lovell	550	575
Oklahoma City	151,200	153,775
Olympic	8,675	9,080
Papoose	975	975
Polo	2,575	2,625
Sasakwa and townsite	3,475	3,200
Sholem-Alechem	3,275	3,325
Seminole:		
Bowlegs	11,750	11,375
Carr City	6,275	5,800
Earlsboro	6,875	6,750
South Earlsboro	750	825
East Earlsboro	9,625	9,575
Little River	11,875	11,900
East Little River	1,200	1,225
Maud	900	900
Mission	2,450	2,350
Seminole	9,525	10,175
East Seminole	4,550	4,850
Searight	5,300	4,275
Total Seminole	71,075	70,000
St. Louis-Pearson	25,275	25,050
Tatums	3,225	3,360
Tonkawa-Garber-Thomas	5,525	5,500
Wewoka	3,925	3,950
Yale-Jennings	4,025	4,050
Other pools	67,400	69,160
Total Oklahoma	586,425	586,725

Oklahoma County

Blackstock Oil Co. No. 1 Tegtmeyer, NE NE SE section 36-14-4w, on the west side of the Edmond field, Oklahoma County, flowed 1,382 bbls. of oil in four hours, made potential of 8,224 bbls. and was completed at 6,695 feet, total depth. Production was from Simpson formation, topped at 6,477 feet, and second Wilcox sand, topped at 6,684 feet.

In the Oklahoma City field, Champlin Refining Co. completed No. 1 Slattery, C W half NW SE section 15-12-3w, at 6,461 feet, total depth. It flowed 167 bbls. of oil by heads in 24 hours from Simpson horizon, topped at 6,375 feet.

Southwest Petroleum Co. No. 1 Johnson, SW SE SE section 27-12-3w, Block 18, Howe's Capitol addition, flowed 534 bbls. in three hours and made daily potential of 4,608 bbls. Production was from Wilcox sand, topped at 6,329 feet.

In the Britton sector, Sinclair Prairie Oil Co. and Slick-Urschel Oil Co. No. 2 Corbett, NW NW NE section 17-13-3w, topped Dolomite at 6,538 feet; first Wilcox sand, 6,636 feet; total depth, 6,665 feet. It flowed 360 bbls. in 24 hours; was shot, flowed 485 bbls. in 24 hours and was completed. Slick-Urschel Oil Co. and others No. 1 Meeker

C-40, NW cor. section 29-13-3w, an old well, was plugged back from 6,757 feet to 6,670 feet, shot, perforated casing and acidized. It flowed 1,270 bbls. in 24 hours, with 12 to 14 per cent water, and 5,000,000 feet of gas, recompleted.

New work in Oklahoma County was as follows: Blackstock Oil Co. No. 2 Tegtmeyer, SE NE SE section 36-14-4w, digging cellar. Pure Oil Co. No. 11 Malm, SW cor. section 30-14-3w, digging cellar and pits. Continental Oil Co. No. 13 Young, SW SW NW section 31-14-3w, digging cellar and pits; same operators No. 14 Young, NW cor. section 31-14-3w, location. Jones & Shelburne No. 1 McKeever, NW SW NW SE section 15-12-3w, Block 1, Kenwood Highland Addition, building rig. Clark & Co. No. 1 Noffsinger, Block 9, Arlington Heights addition, Oklahoma City, drilling at 567 feet.

Osage County

Six completions in Osage County included four new producing wells in the South Burbank sector. Lewis Production Co. No. 7 Callahan, NW NE SW section 23-26-6, topped Bartlesville sand, the producing formation, at 2,862 feet; had pay at 2,880-2,950 feet; based sand at 2,950 feet and was bottomed at 2,955 feet. It flowed 821 bbls. of oil in 24 hours.

Carter Oil Co. and others No. 9 Adlum C-42, NE NE SE NW section 10-25-6, topped Bartlesville sand at 2,732 feet, based it at 2,818 feet, and was bottomed at 2,819 feet. It flowed 536 bbls. in 22 hours, with 2,060,000 feet of gas. Same operators' No. 7 Transit Mosier C-42 flowed 91 bbls. of oil in 24 hours after a 140-quart shot. It had Bartlesville sand at 2,849-2,923 feet; total depth 2,934 feet.

Kewanee Oil & Gas Co. No. 1 Eva, NW NW NE section 35-26-6, topped Bartlesville zone at 2,836 feet; Chat, 2,940 feet; lime, 3,013 feet; total depth, 3,029 feet. It was plugged back to 2,908 feet, shot and flowed 58 bbls. of oil in the first 12 hours and swabbed and flowed 68 bbls. in the next 24 hours.

Lewis Production Co. and Continental Oil Co. No. 16 Ke-Ne-Kah, SE SW SW section 16-24-7, Naval Reserve pool, flowed 78 bbls. of oil in the first 17 hours after shot. It topped Bartlesville sand at 2,667 feet; drilled to 2,719 feet, total depth, and plugged back to 2,707 feet to complete.

Ray Branstetter No. 4 Osage, NE NW SE section 28-22-11, pumped 30 bbls. of oil in 24 hours and was completed at 2,062 feet, total depth, in Siliceous lime topped at 2,037 feet. Production was from Hominy sand at 1,987-2,037 feet.

The following new work was reported in Osage County: Ohio Osage Oil Co. No. 11 Osage, NW cor. section 16-21-9, location; same operator's No. 31 Osage, SE SW SW SW section 9-21-9, location. Opal Twyman No. 12 Osage, SW SE NW section 4-23-11, location. Kewanee Oil & Gas Co. No. 3 Alfred, SW SW NE section 26-26-6, building rig. Magnolia Petroleum Co. and Empire Oil & Refining Co. No. 4 Bonto, SW SE NW section 23-26-6, building rig. Lewis Production Co. No. 9 Callahan, NE NW SW section 23-26-6, rigging up standard tools. Bay Oil Corp. No. 3 Osage, SE SW NW section 25-22-7, location. Coralena Oil Co. No. 1 Osage, SW cor. section 13-24-7, location. Peters Petroleum Corp. and Sinclair Prairie Oil Co. No. 13 Osage, SW NE NE section 24-24-7, spudded. Philtex Oil Co. No. 60 Osage, SW SE NW section 22-25-12, location. Morrison & Alexander No. 6 Osage, NW NE SE section 35-25-11, location.

Seminole County

Carter Oil Co. No. 2 Hully, C E half SE SE section 15-10-6, South Keokuk district, Seminole County, flowed 137 bbls. of oil in 24 hours and was completed at 4,273 feet, total depth, in Misener sand topped at 4,265 feet.

Pioneer Drilling Co. and others No. 1 Twinam, SW NE NE section 35-11-6, Keokuk field, pumped 111 bbls. of oil and 135 bbls. of water in 24 hours and was completed at 4,150 feet, total depth. Misener sand was topped at 4,138 feet. It was acidized. Carter Oil Co. No. 1 Hodges, NW NE SE SW section 26-11-6, was acidized, flowed 380 bbls. of oil net and 260 bbls. of water from Hunton lime topped at 4,114 feet. Total depth was 4,125 feet, completed.

Blackwell Oil & Gas Co. No. 6 Baker, SW NW SE section 11-7-6, Little River area, topped second Wilcox sand at 4,170 feet; was bottomed at 4,194 feet; plugged back to 4,192 feet, shot and swabbed 200 bbls. of oil and 100 bbls. of water in 24 hours, completed.

Champlin Refining Co. No. 11 William See, NE NE SE section 30-7-8, Fish sector, was dry and abandoned at 3,063 feet, total depth.

First reports on new work in Seminole County were as follows: Continental Oil Co. and others No. 2 Milsey, SE SW SW section 11-7-6, old well being deepened, drilling 4,321 feet with 300 feet of oil in the hole. Vierson and others No. 7 Jones "A," SE NW NW section 11-6-6, rig. Riverland Oil & Gas Co. No. 1-A Goebelt, NW SE SE section 12-6-6, wildcat, location. Magnolia Petroleum Co. No. 4 Reed, NE NE NW section 34-8-8, old well, plugged back from 4,202 feet to 3,322 feet, shot and swabbed 5 bbls. of oil and 5 bbls. of water in 24 hours. Carter Oil Co. and others No. 3 Sanford, NW NE SE section 16-9-6, location; same operators' No. 1 Wrightsman, NW NE NE section 19-9-6, old well preparing to deepen, cleaning out. Burke-Greis Oil Co. No. 2 Wisner, NW SW NE section 6-9-6, old well preparing to plug back, rigging up.

Okfuskee County

Blackwell Oil & Gas Co. No. 6 Dalton, NW NE NE section 36-10-8, Olympic sector of southwestern Okfuskee County, topped Senora sand at 1,695 feet; total depth, 1,735 feet; was shot and flowed 35 bbls. of oil in one hour, with 2,000,000 feet of gas, completed.

Ark Royalty Co. No. 2 Fisher, SE SW SE section 18-10-9, pumped 120 bbls. of oil in 24 hours and was completed at total depth of 1,820 feet, with production from Senora sand topped at 1,778 feet. Gulf Oil Corp. No. 7 Cohee, SE NW NW section 31-10-9, had Senora sand at 1,731-77 feet; was bottomed at 1,779 feet; shot with 60 quarts and flowed and swabbed 134 bbls. of oil in 17 hours, completed. Sinclair Prairie Oil Co. No. 5 Carolina, NW NE SW section 31-10-9, was completed at 1,751 feet, total depth, after topping Senora sand at 1,729 feet. It was shot with 30 quarts and swabbed 140 bbls. in 24 hours.

Sinclair Prairie Oil Co. No. 1 Farley, SW SE

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NW section 21-13-7, produced 7,000,000 feet of gas after acidizing and was completed at 4,193 feet, total depth. Top of Hunton lime was 4,085 feet; Sylvan shale, 4,112 feet.

The following new work was reported in Okfuskee County: Blackwell Oil & Gas Co. No. 8 Dalton, NW SE NE section 36-10-8, rigging up rotary; same operator's No. 9 Dalton, SW NE NE section 36-10-8, drilling at 225 feet. Ark Royalty Co. No. 1 Gardner, SE SW NE section 18-10-9, location. J. A. Chapman No. 3 Peter King "B," NW SW SW section 30-10-9, set 10-inch casing at 42 feet; same operator's No. 5 Cudjo, NE SE SE section 25-10-8, drilling plugs. H. A. Baker No. 1-A Harjo, NW SE SE section 16-13-8, spudded. Commercial Drilling Co. No. 1-A Comey, NW NE NE section 26-12-11, drilling at 875 feet. Eagle-Picher No. 2 Gregory, NE NW NE section 36-10-11, old well, pulling casing and cleaning out.

Pottawatomie County

No new wells were completed in Pottawatomie County, but two old wells were plugged back and one old well was deepened and recompleted. Erle Haliburton No. 2 Pierson, SE SE NE section 9-7-4, St. Louis district, was plugged back from 3,720 feet to 3,515 feet, was shot and pumped 42 bbls. in 24 hours. Same operator's No. 2 Thomas, NW NE NE section 9-7-4, was plugged back from 3,716 feet to 3,558 feet, shot and flowed 24 bbls. in 24 hours. Magnolia Petroleum Co. No. 2 Disch, SE cor. section 12-7-4, was deepened from 3,904 feet to 4,052 feet, where it had a hole full of water. It was plugged back to 3,544 feet, attempted to rip casing without result and was dry and abandoned.

Work was started at two new operations in Pottawatomie County. Tom Phillips and others No. 1-A Tomlinson, C E half NE NW section 26-11-6, was Carter Oil Co. No. 1 Key, NW NW SE section 26-11-6, were rigging up rotary.

Hughes County

The only completion in Hughes County was Suppes & Horman No. 1-A Simon, NE NE SW section 4-9-9, dry and abandoned at 1,725 feet, where it had a hole full of water.

One new operation was reported in Hughes County. Stanolind Oil & Gas Co. and Amerada Petroleum Corp. No. 1 Harris "D," SW NW NE section 8-6-8, was building rig.

Logan County

Three of the big producers in the Crescent pool of Logan County were officially completed. Continental Oil Co. No. 3 McConnell, SW SE SE section 28-17-4w, made 24-hour potential of 33,592 bbls., with 50,000,000 feet of gas. It had first Wilcox sand at 6,080-6,116 feet; topped second Wilcox sand at 6,195 feet and had pay in it at 6,280-95 feet, total depth.

Texas Co. No. 4 Denny, NW NE SE section 33-17-4w, topped first Wilcox sand at 6,003 feet; second sand at 6,185 feet; and had soft sand at 6,277-82 feet, total depth. It flowed 2,856 bbls. in four hours and made potential of 13,504 bbls.

Mid-Continent Petroleum Corp. No. 3 Campbell, NW SE NE section 33-17-4w, an old well, was deepened from 6,287 feet to 6,302 feet, without an increase and was completed for original potential of 15,684 bbls.

Mid-Continent Petroleum Corp. No. 5 Campbell, NE SW NE section 33-17-4w, was the location for a new Logan County well.

Kay County

Kansas-Oklahoma Oil & Gas Co. No. 2 Smith, C S half NW NE section 6-28-1e, had sand at 2,178-2,200 feet, total depth, produced 730,000 feet of gas and was the only Kay County completion.

Pawnee County

Johnson Oil & Refining Co. No. 10 Byers "A," NE NW NE section 31-21-9e, southeast of Cleveland in Pawnee County, had sand at 299-363 feet, total depth, but bailed water and was dry and abandoned.

One new Pawnee operation was reported. It was Johnson Oil & Refining Co. No. 11 Byers "A," NW NW NE section 31-21-9, drilling at 190 feet.

Garvin County

Winkler & McQueen completed another producer in the Tussy area of Garvin County at No. 2 Davis, NE SE SE section 32-1n-3w. It had oil sands and broken sands and shale from 2,426 feet to 2,655 feet, and was bottomed at 2,677 feet in shale. It flowed 90 bbls. of oil through tubing in the first 24 hours. Magnolia Petroleum Co. No. 3 Burr, NE cor. section 31-1n-3w, topped County Line lime at 2,765 feet, black shale at 2,765 feet, showed water on Schlumberger test and was dry and abandoned at 3,857 feet, total depth.

Two new operations were reported in Garvin County: Winkler & McQueen No. 3 Davis, SW SE SE section 32-1n-3w, location; Allen Huckelberry and C. Carter No. 2 Wood, SE NE SW section 5-4n-3e, cellar.

Okmulgee County

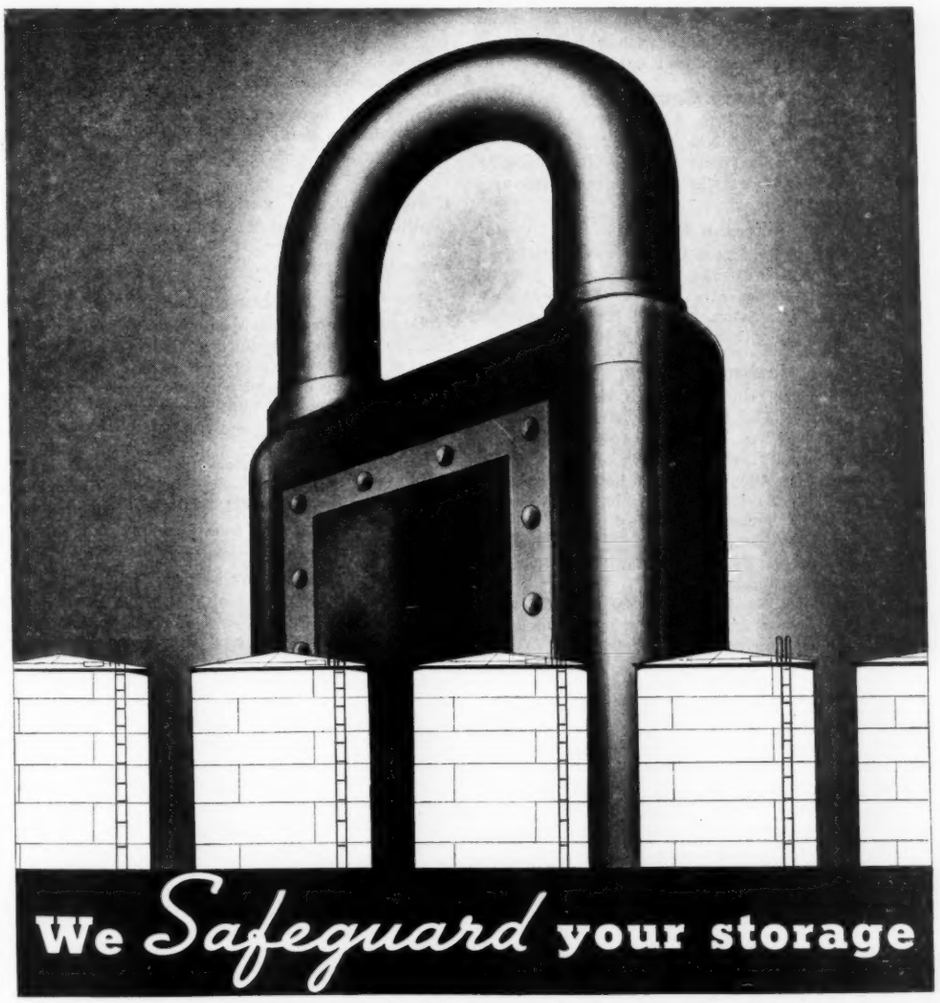
Reliance Oil Co. No. 8 Cowan, CNL SE SW section 26-16-11, Okmulgee County, had Glenn sand at 1,815-73 feet, total depth, was shot and swabbed 30 bbls. of oil in 24 hours, completed.

Grant Rebold No. 2-A Johnson, C E half NE SE section 27-13-13, had water in sand at 2,191-92 feet, total depth, and was dry and abandoned.

New work in Okmulgee County was as follows: Eagle-Picher No. 4 Seaborn, CNL NE SE section 17-11-12, rig on ground. Bruce, Peterson & Hester, Inc., No. 1-A Trent, SE cor. section 28-16-13, location. Kishoma Oil Co. No. 4-A Scott, NE SE NW section 23-13-14, location.

Carter County

Texas Co. and associates finally completed No. 1 Cathey, SE NE NE section 6-5s-1w, wildcat southeast of the Hewitt field in Carter County, for an estimated initial production of 130 bbls. It was bottomed at 4,559 feet, but was plugged back to 4,410 feet. Viola lime was topped at 4,375 feet; Bromide, 4,440 feet. This well originally was completed some months ago, but operators decided to deepen. Maxine Oil Co. No. 3 Brady, SW SW NE section 5-2s-2w, had sand at 1,470-89 feet;



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total depth, 1,491 feet; pumped 45 bbls. in 19 hours and was completed. Skelly Oil Co. No. 1 Woods, NW cor. section 4-1s-3w, was dry and abandoned at 2,960 feet, total depth. Shell Petroleum Corp. No. 15 Horton, SW SW NE section 6-4s-3w, had sand at 1,030-68 feet, total depth, pumped 54 bbls. of oil in 24 hours and was completed.

Three new tests were reported in Carter County. Head & Straus No. 1 Simpson & Fell, NW NW SE section 8-5s-1e, wildcat, was a location. Winkler & McQueen No. 1 Moore, NW NE NE section 5-1s-3w, was rigging up. Schermerhorn Oil Co. No. 36 fee, SW SW NE section 5-4s-3w, was rigging up machine.

Muskogee County

Joe Paul No. 2 Herrod, C NE NW section 24-15-17, Muskogee County, had a hole full of water at 2,100 feet, total depth, and was dry and abandoned.

The only new work reported in Muskogee County was at Robinson Oil Corp. No. 6 McKee, NW NW SW section 17-13-16. It had salt sand at 490-675 feet, total depth, with a hole full of water, and was running 8-inch casing.

Grady County

Oklahoma Gas Utilities Co. well on the Farwell tract at SW SE NE section 26-5-8w, Grady County, had a junked hole and was abandoned at 3,364 feet. It was a twin well to the company's No. 15 Farwell.

Jefferson County

New work in Jefferson County was as follows: Bridwell Oil & Gas Co. No. 6 Wahlgemuth, NE SE NW section 30-6s-5w, pits; and R. E. Korts and others No. 2-A Penniston, NW NE NW SW section 16-7s-5w, drilling with machine at 40 feet.

Jackson County

Gulf Oil Corp. completed two more wells in Jackson County. The No. 5 Ellis, SE SE NE section 6-1s-19w, had lime at 2,606-18 feet, total depth, was acidized and flowed 172 bbls. of oil and 40 bbls. of water in the first eight hours. Later it flowed 106 bbls. of oil through one-half inch choke on tubing in 24 hours. The No. 6 Boucher, SW cor. section 32-1n-19w, had lime at 2,615-27 feet, total depth, pumped 86 bbls. of oil and 250 bbls. of water and was completed.

Gulf Oil Corp. No. 5 Shirley, SW NW NE section 6-1s-19w, the only new operation in Jackson County, was rigging up rotary tools.

Stephens County

Two producing wells were completed in Stephens County. Gulf Oil Corp. No. 1 Anderson, NE SE NW NW section 15-3s-5w, had sand at 1,457-89 feet, total depth, and pumped 55 bbls. of oil in 24 hours. Hartman & Hamilton No. 2 Robberson, NW cor. section 15-3s-5w, pumped 31 bbls. of oil in the first 12 hours from sand at 1,470-98 feet, total depth, after plugging back to 1,480 feet.

Work started at a new wildcat in Stephens County. It was T. H. McCasland No. 2 Hilderbrand, NW NW NE section 1-3s-7w, which was rigging up rotary tools. It was to be a 2,200-foot test.

Marshall County

Helmerich & Payne have given up the deep test in Marshall County as a bad job. The No. 1 Taliaferro, C SE SW section 26-5s-5e, wildcat near Madill, was dry and abandoned at 6,512 feet, total depth, in black shale. It cored from 6,505 to 6,512 feet without recovery.

Pittsburg County

One new operation was reported in the Quinton gas area of Pittsburg County. Utilities Production Co. No. 4 Koehler, C S half SE SW section 11-7-18, an old well being deepened from 1,914 feet, was drilling at 1,964 feet, with gas gauging 8,000,000 feet.

Eastern Fields

(Continued from Page 76)

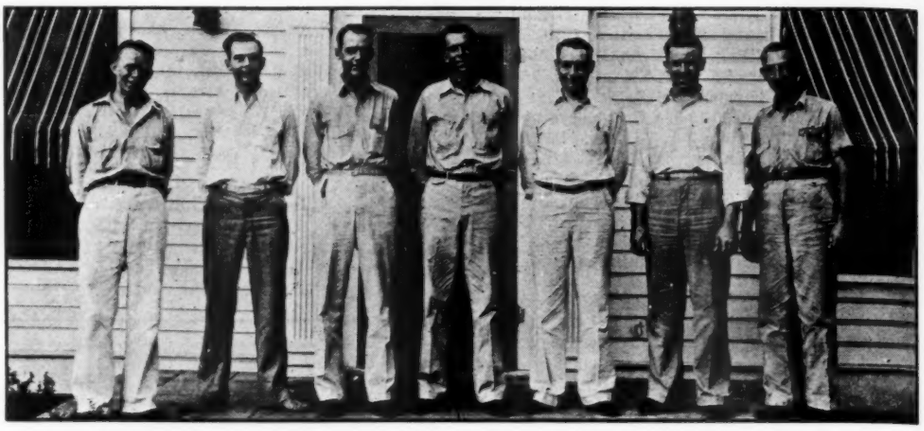
No. 7 on the C. Q. Crockett farm. Seven other deep tests are drilling in this district.

In Elk district, Kanawha County, the United Fuel Gas Co. is drilling at 4,650 feet on the C. B. Graham farm; 4,700 feet on the Orth and Walker lease and has seven other wells at various depths drilling to the Oriskany sand. The Columbian Carbon Co. has five wells drilling, one spudding and one rig standing in this district with the deepest drilling at 3,000 feet. The Yoak Oil & Gas Co. has reached 4,878 feet in the No. 2 on the Goshorn heirs. The Sandy Elk Oil & Gas Co. is shut down in the Oriskany sand, total depth 5,030 feet, on the Perry Moles heirs farm with little showing. The Hays Oil & Gas Co. is drilling at 4,460 feet on the John Judy heirs farm.

In Poca district, William O. Zeibold and others have reached 4,794 feet in the test on the Griffith and Dixon lease and should be in the sand. The most interesting test or westerly one that of the United Carbon Co. on the George W. Facemyer farm is drilling at 4,200 feet. This company is down 4,500 feet on the S. H. Milam farm and 4,565 feet on the W. P. Moss farm. George W. Lepiere has spudded in and started drilling the test on the J. W. Legg farm.

In the outside deep tests, the Columbian Carbon Co. is shut down testing the deep test on the R. H. Wood and others farm in Sherman district. The depth is 4,289 feet. In Geary district, Roane County, Godfrey L. Cabot, Inc., has reached 1,200 feet on the T. F. Smith farm.

In Burning Springs district, Godfrey L. Cabot, Inc., has spudded in and started drilling the deep test on the Walter Hoffman 53-acre tract, and has a rig standing for a deep test on the Sarah Jones Ferrell farm in Sheridan district, Calhoun County. In Burning Springs district, Wirt County, this operator has shut down at 2,440 feet the test on the Julia Blankenship farm. The same operator is rigging up a test on the Walter Hoffman other tract and started drilling the test on his own in fee property. Glen W. Roberts is down 1,859 feet on his Roberts Oil Co. acreage.



Office force of E. H. Moore, Inc., in the Fitts field headquarters. Left to right: Phil Wimbish, production clerk; W. M. Smart, time-keeper; Ira M. King, chief clerk; Cecil Brown, hydril operator; A. D. English, production clerk; Frank Chambers and W. E. Barnes, clerks

Crude Oil Stocks

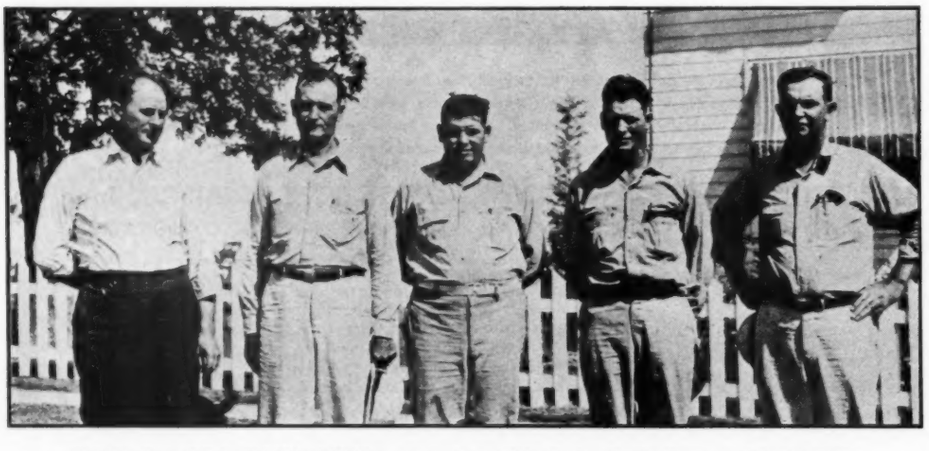
Stocks of domestic and foreign crude petroleum at the close of the week ending October 10 totaled 292,701,000 bbls., according to the Bureau of Mines, a decrease of 1,648,000 bbls., comprising decreases of 1,400,000 bbls. and 248,000 bbls. in stocks of domestic and foreign crude. Daily average crude runs to stills was about 3,065,000 bbls., a gain of about 30,000 bbls. over the previous week. Imports of crude showed a material decline, being only 47,000 bbls. compared with an average of 123,000 bbls. for the previous week.

STOCKS OF CRUDE PETROLEUM

Grade of crude oil—	Oct. 3	Oct. 10
Pennsylvania Grade	4,163,000	4,152,000
Other Appalachian	647,000	700,000
Lima-N. E. Indiana-Michigan	997,000	986,000
Illinois-S. E. New Mexico	9,952,000	9,976,000
N. Louisiana and Arkansas	10,706,000	10,731,000
W. Texas and S. E. New Mexico	28,751,000	28,389,000
East Texas	20,078,000	19,060,000
Other Mid-Continent	117,358,000	117,407,000
Gulf Coast	27,228,000	27,225,000
Rocky Mountain	25,727,000	25,655,000
California	30,313,000	30,239,000
Foreign	2,129,000	1,881,000
Total reported weekly	278,049,000	276,401,000
Estimate of unreported stocks	16,300,000	16,300,000
Total stocks	294,349,000	292,701,000

California Gasoline Tax

California will receive in 1937 approximately $52,250,000 from gasoline taxes, motor vehicle license fees, federal road aid and other sources for highways. Since 70 per cent of such funds for southern California are paid in Los Angeles County, it may receive upwards to $10,000,000 a year instead of approximately $600,000 as at present.



Reading from left to right: Levi Ackley, general superintendent; E. W. Burns, assistant superintendent; J. P. Woodwell, general foreman; L. B. Northcutt, farm boss; Paul Gattis, district superintendent, all of E. H. Moore, Inc.'s production department, Ada, Okla.

GULF OIL WILL DRILL TEST TO GRANITE IN EAST COLORADO

By
T. R. INGRAM

DENVER, Colo., Oct. 26.—The Gulf Oil Corp. has announced plans to drill a test to the granite in Kiowa County, eastern Colorado. The Continental Oil Co. test to the Sundance on the Wellington dome is backing up after finding that horizon dry. Same company's Sundance test on the Thornburg dome was completed as a small gasser.

In Wyoming the Ohio Oil Co. No. 1 Lindsay on the Byron structure swabbed 250 bbls. initially. The Sinclair-Wyoming Oil Co.'s Tensleep test on Muskrat dome in Fremont County is preparing to test an oil show in that horizon.

The Cut Bank field in Montana had five completions, one of which was above the average. This was A. B. Cobb No. 1 Jackson-Reagan, which swabbed 240 bbls. in 15 hours. Four new wells are getting under way. The Kevin-Sunburst field furnished a surprise in Nepstad, Montgomery & Taragher No. 2 Thompson, which made 260 bbls. the first day and 250 bbls. the second day. The Par Oil Co. wildcat test of Cut Bank was plugged and abandoned.

NEW MEXICO

The biggest producing well completed in New Mexico during the week was at Amerada Petroleum Corp. No. 3 Lambert, C NE NE section 6-20-37, Monument field, Lea County. It flowed 2,532 bbls. of oil naturally through tubing in 24 hours, with gas gauging 1,280,000 feet. It topped the oil horizon at 3,794 feet, had best pay at 3,863-78 feet and was bottomed at 3,888 feet.

Continental Oil Co. No. 4-A-3 Reed, C SE SE section 3-20-36, was the next best Monument completion. It had oil pay at 3,822-50 feet; total depth, 3,851 feet, and flowed 1,128 bbls. through three-fourths inch tubing choke. Gas volume was 2,240,000 feet.

Other Monument completions: Shell Petroleum Corp. No. 1 State "H," C NE SE section 20-19-37, had pay at 3,864-3,984 feet, was acidized and flowed 408 bbls. of fluid through tubing, cutting 4 per cent basic sediment and water. It flowed 240 bbls. in 24 hours before acidizing. Gulf Oil Corp. No. 1 Love, C SW SE section 32-19-37, flowed 430 bbls. of oil and 4 per cent basic sediment in 24 hours after acidizing, from oil pay at 3,785-3,890 feet, total depth. Amerada Petroleum Corp. No. 3 Andrews, C SE NE section 11-20-36, had pay at 3,803-3,890 feet, and flowed 360 bbls. of oil naturally through 1-inch tubing choke. Tide Water Oil Co. No. 1 State "I," SW SE SW section 16-20-37, had a natural flow of 600 bbls. through 1-inch tubing choke, with 1,500,000 feet of gas, from pay at 3,785-3,850 feet, total depth.

In the Eunice field, Skelly Oil Co. and Sun Oil Co. No. 1 Adkins, C SW SW section 3-21-36, had a natural flow of 1,174 bbls. of oil through tubing in 24 hours and was completed in pay at 3,790-3,885 feet, total depth. Continental Oil Co. No. 4-B-15 Meyer, C NE SW section 4-21-36, had pay at 3,737-3,857 feet, total depth. It was shot and flowed 144 bbls. through choke in 24 hours. Same operator's No. 2-D-11 State, C SW SW section 11-21-36, flowed 720 bbls. of oil naturally through three-fourths inch tubing choke and was completed in pay at 3,791-3,900 feet, total depth. Gas volume was 1,000,000 feet.

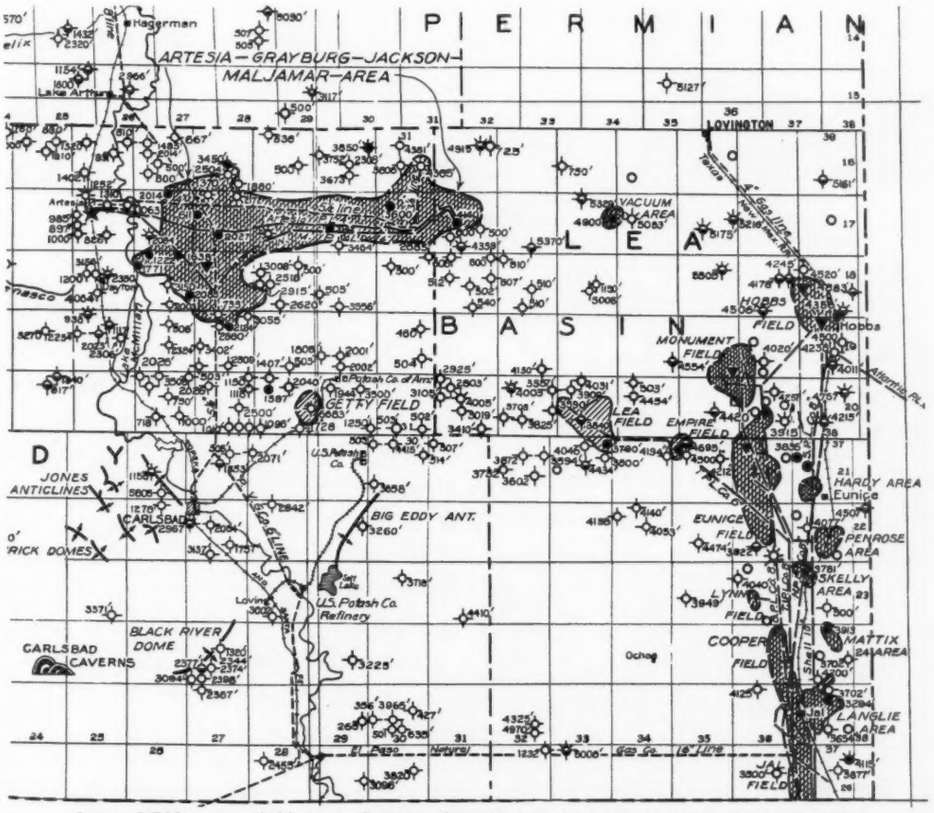
Other Lea County completions were as follows: Continental Oil Co. No. 1-A-21 Elliott, C SE SE section 21-22-37, had pay at 3,510-52 feet, total depth, swabbed 65 bbls. of oil in 24 hours; was shot, and flowed 120 bbls. in 24 hours through three-fourths inch choke. Republic Production Co. No. 2 Crosby, NW NW SW section 28-25-37, had gas pay at 2,528-3,069 feet; was bottomed at 3,460 feet in sulfur water, and plugged back to 3,069 feet to complete. It produced 40,000,000 feet of gas, after perforating casing at 2,528-3,069 feet. Continental Oil Co. No. 1-A-30 Eaves, C NE NE section 30-26-37, had natural flow of 552 bbls. of oil through one-half inch tubing choke in 24 hours, from pay at 3,125-3,232 feet, total depth. Magnolia Petroleum Co. No. 1 Scharbauer-Eidson, C NW NE section 29-16-35, wildcat, was dry and abandoned at 5,300 feet, total depth. It was drilled with rotary to 2,136 feet, and with cable tools the remainder of the distance.

One small gas well was completed in Eddy County. It was Pecos Valley Gas Co. No. 1 Andrews-State, C SW SW section 2-17-28, Artesia area. It had pay at 1,670-73 feet, total depth, was shot with 60 quarts and produced 175,000 feet of gas.

Al Gibbons No. 2 fee, NW SE NE section 28-20-9w, McKinley County, was dry and abandoned at 540 feet, total depth.

Monument Area

Anderson-Prichard Oil Corp. No. 2 Britt "A," C NE SW sec 6-20-37. T.D. 3,890 ft.; testing.
Gulf Oil Corp. No. 1 Ketter, C SW SE sec. 20-19-37. T.D. 4,007 ft.; acidized; flowed 118 bbls. fluid in 21 hrs.
Texas Co. No. 3 State-Aggies, NE cor. sec. 20-20-37. T.D. 3,700 ft.; set 7-in. casing.
Gulf Oil Corp. No. 8 Graham-State, C NW SE sec. 25-19-36. T.D. 1,180 ft.; set 7⅝-in. casing.
Amerada Pet. Corp. No. 4 Andrews, sec. 12-20-36. Drlg. 3,701 ft.
Amerada Pet. Corp. No. 1 Theo. Anderson, sec. 8-20-37. Drlg. 2,339 ft.
Empire Oil & Ref. Co. No. 1-F State, sec. 30-20-37. Drlg. 3,466 ft.
Gulf Prod. Co. No. 1 Whitmore, sec. 8-20-37. Drlg. 3,778 ft.
Gulf Oil Corp. No. 2 Kutter-State "B," C SW NW sec. 38-19-37. T.D. 300 ft.; set 10¾-in. casing.
Gulf Oil Corp. No. 2 Williams, C SW SE sec. 29-19-37. Drlg. 1,222 ft.
Gulf Oil Corp. No. 3-B Culp, C SE SE sec. 31-19-37. T.D. 1,107 ft.; set 7⅝-in. casing.
Atlantic Pet. Corp. No. 1 Crutchfield, C NE SE sec. 32-19-37. Drlg. 1,250 ft.
Empire Oil & Ref. Co. No. 2 Laughlin, C SW SE sec. 5-20-37. Drlg. 2,915 ft.
Chio Oil Co. No. 4 Barber, C NE SW sec. 5-20-37. Drlg. 2,922 ft.
Ohio Oil Co. No. 5 Barber, C NW NW sec. 5-20-37. Drlg. 2,472 ft.
Tide Water Oil Co. No. 2 Anderson, C NE SE sec. 8-20-37. Drlg. 2,677 ft.
Gulf Oil Corp. No. 1 Kutter "B," C SW SW sec. 21-19-37. T.D. 3,985 ft.; testing.
Skelly Oil Co. No. 2 State "F," C SW SE sec. 17-20-37. Cellar and pits.
Amerada Pet. Corp. No. 5 State "K," C SW NE sec. 29-19-37. T.D. 2,561 ft.; set 8⅝-in. casing.
Sun Oil Co. No. 1 Laughlin, C NW SW sec. 4-20-37. Drlg. 1,475 ft.
Sun Oil Co. No. 2 Laughlin, C NE SE sec. 5-20-37. Drlg. 2,448 ft.
Phillips Pet. Co. and Anderson-Prichard Oil Corp. No. 1 Hobbs, C NE SW sec. 18-20-37. Preparing to spud.
Texas Co. No. 4 Mattern, C NE SW sec. 20-19-37. Rig.
Gulf Oil Corp. No. 2 Love, C SE SE sec. 32-19-37. Rig.
Shell Pet. Corp. No. 3 Cooper "B," C SW NW sec. 4-20-37. T.D. 140 ft.; set 1½-in. casing.
Amerada Pet. Corp. No. 1 Adkins, C SW SW sec. 5-20-37. Drlg. 150 ft.
Texas Co. No. 3 Cooper, C SW NE sec. 5-20-37. Rig up.
Continental Oil Co. No. 5-A-3 Reed, SE SW NE sec. 3-20-36. Cellar and pits.
Humble C. & R. Co. No. 1 State "D," C SE NE sec. 20-19-37. Loc.
Texas Co. No. 2 Cooper, C NE NE sec. 5-20-37. Cellar and pits.
Continental Oil Co. No. 1 Britt "A," C NE NW sec. 18-20-37. Rigging up rotary.
Amerada Pet. Corp. No. 7 Weir, C SW SE sec. 26-19-36. Loc.



Lea and Eddy county fields in southeastern New Mexico showing pools and results of wildcat drilling. The map is a part of the state Bureau of Mines and Mineral Resources new oil and gas map of New Mexico

Continental Oil Co No. 1 State "A," C SW SW sec. 26-19-36. Loc.
Continental Oil Co No. 1 Sanderson "A," C E half NE NE sec. 10-20-36. Loc.
Continental Oil Co. No. 2 Sanderson "A," C N half NW SE sec. 11-20-36. Loc.

Eunice Area

Continental Oil Co. No. 5-B-14 Lockhart, C NW SW sec. 14-21-36. Loc.
Continental Oil Co. No. 4-D-15 State, C SW SE sec. 15-21-36. Loc.
Continental Oil Co. No. 5-D-15 State, C SW NE sec. 15-21-36. Loc.
Humble O. & R. Co. No. 2 State-Aggies, C SW SE sec. 31-20-37. T.D. 1,192 ft.; set 7⅝-in. casing.
Continental Oil Co. No. 16-B-4 Meyer, C SE SE sec. 4-21-36. Drlg. 1,257 ft.
Shell Pet. Corp. No. 2 State "F," C SW NW sec. 6-21-36. Drlg. 421 ft.
Humble O. & R. Co. No. 7 Adkins, C SE NW sec. 10-21-36. Cellar and pits.
Gulf Oil Corp. No. 3 Janda "C," C SE SW sec. 15-21-36. T.D. 33 ft.; set 15½-in. casing.
Shell Pet. Corp. No. 2 State "A," NE cor. sec. 12-21-25. Rigging up rotary.
Gulf Oil Corp. No. 11 Arnott-Ramsey "C," C NE NE sec. 21-21-36. Drlg. 3,796 ft.
Gulf Oil Corp. No. 1 Sunshine, C SW SW sec. 30-20-37. Coring 3,824 ft.
Jim Murray et al No. 3 Wallace, C SE NW sec. 3-21-36. T.D. 3,875 ft.; flowed 2 bbls. per hour; acidized.
Gulf Oil Corp. No. 2 Orcutt "C," C NE NE sec. 6-21-36. Drlg. 1,177 ft.
Humble O. & R. Co. No. 6 Knox, C NE SE sec. 10-21-36. T.D. 3,890 ft.; to acidize.
Shell Pet. Corp. No. 1 State "K," C NE NE sec. 36-20-36. Drlg. 3,800 ft.
Continental Oil Co. No. 4-B-14 Lockhart, sec. 14-21-36. Drlg. 2,618 ft.
Continental Oil Co. No. 3-B-18 Meyer, sec. 18-21-36. Drlg. 3,370 ft.
Gulf Prod. Co. No. 1-D Bell-State, sec. 6-21-36. Drlg. 3,328 ft.
Gulf Prod. Co. No. 1-E Bell-State, sec. 11-21-36. Drlg. 2,810 ft.
Gulf Prod. Co. No. 3 Harry Leonard, sec. 22-21-36. T.D. 1,446 ft.; set 7⅝-in. casing.
Sun Oil Co. No. 3 Akens, sec. 3-21-36. Drlg. 2,902 ft.
Gulf Oil Corp. No. 6 Orcutt, C SW NE sec. 6-21-36. Drlg. 2,627 ft.
Atlantic Oil Prod. Co. No. 3 State "L," C SW NW sec. 6-21-36. T.D. 1,251 ft.; set 8⅝-in. casing.
Texas Pacific Coal & Oil Co. No. 2 State "A," Acct. 2, C NW SW sec. 5-22-36. T.D. 3,763 ft.; set 7-in. casing

Sims Area

Devonian Oil Co. No. 1 Christmas, NE NE SE sec. 28-22-37. Cellar and pits.
Skelly Oil Co. No. 1 R. R. Simms "C," C SE SW sec. 3-23-37. Moving in material.
Skelly Oil Co. No. 1 H. O. Simms "D," C SE NW sec. 3-23-37. Spudded.
Skelly Oil Co. No. 1 W. P. Simms "B," C NW NE sec. 10-23-37. Rigging up machine.
Empire O. & R. Co. No. 1 Walden, C SE NW sec. 21-22-37. T.D. 1,120 ft.; set 8⅝-in. csg.
Penrose & Rowan No. 3 Cary, C SE NW sec. 22-22-37. T.D. 1,305 ft.; waiting on tools.
Continental Oil Co. No. 1-A-15 Elliott, SE SE SE sec. 15-22-37. T.D. 3,556 ft.; shot; cleaning out.
Samedan Oil Co. No. 1 Hughes, C NE SW sec. 4-23-37. T.D. 3,648 ft.; swabbed 64 bbls. in 24 hrs.; cleaning out.
W. H. Street et al No. 1 Wood, C W½ SE NE sec. 22-22-37. Drlg. 1,150 ft.
Amon G. Carter No. 1 E. M. Elliott, sec. 22-22-37. Loc.
J. E. Farrell No. 1 Walden "C," sec. 15-22-37. T.D. 1,060 ft.; S.D.
J. E. Farrell No. 1-A Walden, C SW NW sec. 15-22-37. T.D. 90 ft.; S.D.
Repollo Oil Co. No. 2 Ollie Boyd, sec. 23-22-37. Cellar and pits.
Skelly Oil Co. No. 1 G. W. Sims, sec. 10-23-37. T.D. 3,410 ft.; standardizing.
Skelly Oil Co. No. 1 W. P. Sims, sec. 10-23-37. T.D. 3,400 ft.; set 7-in. csg.
Skelly Oil Co. No. 2 R. R. Simms, C NE SW sec. 3-23-37. Loc.

Cooper Area

Southern Oil Corp. No. 1 Gates, C SW NW sec. 23-24-36. T.D. 3,514 ft.; acidized.

Lea County—Miscellaneous

Continental Oil Co. No. 1 J. C. Farney "A," C SW SE sec. 5-23-36. Wildcat. Moving in material.
Plains Prod. Co. No. 3 J. A. E. Knight, C SE SE sec. 21-24-37. Rigging up standard tools.
Shell Pet. Corp. No. 1 J. F. Black, C NW SE sec. 21-24-37. Rigging up rotary.
Plains Prod. Co. No. 4 Knight, C SW SW sec. 22-24-37. Cellar and pits.
Eppenauer Drlg. Co. No. 1 Stuart, NE NW NE sec. 22-25-37. Spudded and S.D.
Landreth Prod. Co. No. 1 J. W. Grizzell, C SE SW sec. 5-22-37. T.D. 3,780 ft.; flowed 20 bbls. of oil per day, 160 bbls. water.
Rowan et al No. 1 Mattern, C SW SE sec. 8-22-37. T.D. 3,789 ft.; cmtg. liner.
C. & G. Oil Co. No. 1 E. Weir, C NE NE sec. 14-20-37. T.D. 4,075 ft.; P.B. 4,074 ft.; S.D.
Williams & Cockburn No. 3 Miller, C SW SW sec. 23-17-32. T.D. 2,526 ft.; S.D.
Argo Royalty Co. No. 1 Lanehart, SW SE NE sec. 21-26-37. Drlg. 3,435 ft.
Magnolia Pet. Co. No. 2 O. E. Carson, C NW NW sec. 33-21-37. T.D. 3,786 ft.; S.D.
Stanolind O. & G. Co. No. 1 Langley, sec. 15-25-37. T.D. 3,413 ft.; to shoot.
Emperor Oil Co. No. 1 State, C SW SW sec. 5-21-36. T.D. 3,185 ft.; fishing.
Leonard No. 3 Lanehart, C NE NW sec. 21-25-37. Moving in material.
C. L. Carlock et al No. 1 Quincy-Ricker, C SE SE sec. 7-16-36. Wildcat; drlg. 229 ft.
J. C. Clower No. 1 Turner, C SE SE sec. 29-21-37. Drlg. 3,374 ft.
Culberson-Irwin & Stovall No. 2 Stuart, NW SE SE sec. 10-25-37. Drlg. 3,010 ft.
Samedan Oil Co. No. 2 Hughes, C NW SE sec. 4-23-37. Cellar and pits.
Continental Oil Co. No. 1-A-24 Sholes, C SE SE sec. 24-25-36. Drlg. 1,871 ft.
Brown & Reynolds No. 1 Parcell, C NW SE sec. 8-21-38. Wildcat; T.D. 1,060 ft.; underreaming at 915 ft.
Baldridge and others No. 1 Blakey, C NW NE sec. 5-20-38. Wildcat. T.D. 1,645 ft.; S.D.
Rushwold Oil Co. No. 1 Carter, C NW NE sec. 30-20-39. Wildcat. T.D. 40 ft.
Plains Prod. Co. No. 2 J. A. Knight, C NW SW sec. 22-24-37. Drlg. 1,080 ft.
Empire O. & R. Co. No. 1 S. Dabbs, C NW NW sec. 23-25-37. Drlg. 2,321 ft.
Skelly Oil Co. No. 1-A Stuart, SW NE NE NW sec. 15-25-37. Drlg. 1,205 ft.
Texas Co. No. 2 Sheppard "A," C SW NW sec. 6-26-37. T.D. 260 ft.; set 10¾-in. csg.
Maxwell, Crandall & Osmond No. 1 Lane-State, C SW NW sec. 32-10-34. Wildcat. Drlg. 290 ft.
Getty Oil Co. No. 1 Hardy, C SE SE sec. 20-21-37. Loc.
Maljamar Oil & Gas Co. No. 7 Baish, C SE NW sec. 21-17-32. Standardizing.
Continental Oil Co. No. 1 Rex William "A," C SW SW sec. 27-23-35. Wildcat; cellar and pits.
Texas Co. No. 1 Young, SE cor. sec. 5-24-37. T.D. 3,025 ft.; fishing.
Texas Co. No. 1 Black, C SW NW sec. 21-24-37. Drlg. 765 ft.

Eddy County

Clint Murchison and others No. 1 State "A," C NE SW sec. 16-17-31. Loc.
Barnsdall Oil Co. No. 4 Dodd, C SE SE sec. 22-17-29. Drlg. at 190 ft.
Fred Brainard No. 1 Berry, C E½ NW NW sec. 23-17-27. Moving in material.
Tignor-Etz & Keys No. 5 Keys "A," C E½ SW SW sec. 10-17-28. Drlg. 125 ft.
Etz Bros. No. 3 State, sec. 16-17-30. T.D. 2,865 ft.; fishing.
Hammond et al No. 1 State, SW SE SW sec. 15-17-28. Drlg. 1,830 ft.
Republic Prod. Co. No. 6 Russell, SW NE NW sec. 18-17-31. T.D. 3,275 ft.; S.D. for repairs.
Flynn, Welch & Yates No. 74 State, C S½ NE SW sec. 27-18-28. T.D. 2,826 ft.; C.O.; est. 23 bbls. daily.
D. & B. Oil Co. No. 2 Berry, NW SE NW sec. 21-17-30. Drlg. 3,400 ft.
William Dooley No. 1 Hatchett, NE SW NE sec. 11-20-26. Wildcat; T.D. 803 ft.; P.B. to 445 ft.; testing.

Harding County

Kahay No. 1 Dae Daca, C sec. 19-20n-31e. T.D. 1,702 ft.; S.D.
Clyde B. Neill No. 1 Foster, C NW SW sec. 27-21-33. S.D. 700 ft.

De Baca County

Mid-Continent Engineering Corp. No. 1 State, C NW SE sec. 27-4n-22e. T.D. 1,051 ft. in broken lime; S.D.

McKinley County

Claude Walker No. 2 fee, sec. 20-20n-9w. Drlg. at 100 ft.
Dave Stacey No. 1 Tee, C NW sec. 28-20-9w. Drlg. 90 ft.

Roosevelt County

Wirt Franklin and Flynn, Welch & Yates No. 1 Catts, C NW NW sec. 28-3n-30e. Drlg. 1,225 ft.

Union County

Superior Oil Corp. and Olson Drlg. Co. No. 1 J. H. Zurich, SE SW sec. 2-21-34e. T.D. 2,925 ft.; in granite; S.D.

NORTHWEST NEW MEXICO

Bernalillo County

Norine Realty Co., Inc., No. 2 Gallegas grant, SE NW

Among Oil Men at the Chicago API Meeting

E. I. HANLON
Chairman Board

A. E. BRADSHAW
President

C. H. SWEET
Vice President

Three executives of the **NATIONAL BANK OF TULSA** will be at the API convention in Chicago, November 9-12, to meet their many friends and to discuss with them, ways and means by which this bank can contribute to the Oil Industry.

Like most of the officers and the members of the board, these men are well founded in their knowledge of oil production and financing and they speak the Oil Man's language.

The policy of the **NATIONAL BANK OF TULSA** is—"Let's go out and look the proposition over," and as a result, the officers know how to make sound oil loans that are to the best interest of both parties.

And so ably has this institution cooperated in every phase of the development of oil, that it has been honored with the title, "The Oil Bank of America," a distinction that it will ever seek to merit.

This bank is a member of the Federal Deposit Insurance Corporation.

NW sec. 19-11n-4e. T.D. 2,450 ft., hd. gr. sd.; rng. 2,000 ft. of 8¼-in.

Guadalupe County

Anton Chico Dev. Co. No. 2 fee, NW NE SW sec. 20-9n-17e. Abd. 804 ft.; bad hole; may drill another loc.

McKinley County

Al Gibbons No. 2 fee, NW SW NE sec. 28-20n-9w. Drlg. sh. 425 ft.
Foster & Clark No. 2 fee, NW NE NE sec. 29-20n-6w. Drlg. 400 ft.
S. Bouton, SEL NW NE sec. 4-14n-10w. S.D. 1,490 ft.
Wm. Forth No. 5 fee, NW NW NE sec. 29-20n-9w. Loc.

San Juan County

The Continental Oil Co. No. 57 Tribal, NW NE NE section 2-29n-19w, Rattlesnake field, a recent completion at 735 feet, was deepened to 854 feet and recompleted for 37 bbls. of oil and no water in 16½ hours.

Atchison & Galloway's No. 1 Cassidy, C SE SE section 19-29-11w, Aztec district, was completed in sand at 683-95 feet for 1 bbl. per day.

R. R. Burke No. 2 Govt., NW NW NE sec. 18-21n-13w. R.U. machine.
Kutz Canon O. & G. Co. No. 1 Day, SW SW SW sec. 20-28n-10w. T.D. 4,400 ft.; will P.B. to Picture Cliff sd.
Angel Peak Oil Co. No. 7 Govt., Lot 2, sec. 11-28-11w. Drlg. 780 ft.; carrying 6⅝-in.
Jack Amenda No. 4 Hart, NW NE SW sec. 25-30n-12w. Drlg. 1,365 ft.

San Miguel County

Cabra Springs O. & G. Co. No. 1 Cabra Springs ranch, SW NE NE sec. 22-12n-22e. T.D. 4,120 ft.; U.R. 6⅝-in. to bottom.
S. W. Pressey et al No. 1 Faulkner, NE NE NE sec. 25-17n-16e. Resuming at 5,082 ft.; (formerly Star-Kennedy No. 3 Adams).

Torrance County

48 Pet. Co. No. 1 Greenfield, C NW SW sec. 17-9n-8e. Drlg. 2,100 ft.

COLORADO

Adams County

Oklahoma Oil Co. No. 1 Baxter, C SW sec. 2-3s-66. S.D. 4,368 ft. for 4-in. D.P.
Glenridge Oil Corp. No. 1 Hills, SE SE SE sec. 27-3s-64w. T.D. 4,267 ft.; rebldg. rig and W.O. 6¼-in.

Archuleta County

Carl D. Linstrom No. 1 Crowley, SE SE SE sec. 3-22n-2e. Stdg. partly rigged.
Maryott Drlg. Co. No. 1 Hollywood, SE SE SE sec. 15-34n-1w. S.D. 625 ft.
Oil City Pet. Co. No. 1-A Garrett, NW NE NW sec. 25-33n-2e. S.D. after P.B. from 1,515 ft. to O.S. at 970 ft.
Oil City Pet. Co. and Archuleta O. & G. Co. No. 1 Reeder, Lot 50 (SW SE SW) sec. 24-33n-2e. S.D. 1,183 ft.
H. L. Kendrick No. 1 Crowley (unsurveyed), sec. 2-32-1. S.D. 1,167 ft.
Sharp et al No. 1 Walcott, C S½ SE sec. 34-33n-2e. Drlg. below 200 ft.

Baca County

Paul R. Robb Pet. Corp. No. 1 Lovette, NW NW NW sec. 24-32s-48. T.D. 2,790 ft.; drlg. on junk.

Boulder County

Boulder Prod. Dev. Co. No. 2 Maxwell, NW NW NE sec. 24-1n-71. Blk. sh. 2,318 ft.

Huerfano County

S. W. Pressey No. 1 Ojo, SW NE sec. 10-29s-69. O.W.D. D.; drlg. 3,150 ft.; S.G.; object Dakota at 3,900 ft.

Jackson County

Colorado Oil Ref. Co. No. 1 North Park Coal Co., NW NW sec. 18-9n-78w. S.D. 2,700 ft.

Kiowa County

The Gulf Oil Corp. released the information this week that it will drill a test well in Kiowa County, in eastern Colorado, in section 1-17s-50w, at which location it has a large block assembled following extensive geophysical surveys. The location probably will be in the C NW SE or C NE SW of the section and moving in of materials will begin at once. The precise location will be released shortly. It will be drilled with heavy-duty rotary tools and contract calls for a depth of at least 7,000 feet unless granite is encountered at a higher elevation. If the hole is bottomed in good sedimentary beds at the contract depth, it will continue until all possibilities are exhausted. Plans call for the setting of big pipe on top of the Pennsylvanian formation and then drilling will proceed slowly until the Pennsylvanian, Mississippian, Devonian and all possible horizons are thoroughly tested.

The well is located about 10 miles northwest of the town of Eads, on the Missouri Pacific Railroad and nearly 100 miles due south of the Indian Territory Illuminating Oil Co. No. 1 Vorce on the Hyde block in Washington County. It is 45 miles west of the Kansas line. Several inconclusive tests drilled in the past indicate that sands in the lower Cretaceous are at a higher elevation above sea level in this general area than in any other part of eastern Colorado. Eighteen miles to the southwest the Minerals Exploration Co. found the top of the Dakota at 1,169 feet. Six miles to the northeast the Standard Oil Co. of California in its No. 1 Scholtz-Union Pacific, cut the Dakota at 1,190-1,270 feet. Eighteen miles to the southeast the old Nee-No-She well had the first Dakota at 710-820 feet. The last-named was probably 600 feet in the Pennsylvanian when it ran out of hole at 4,090 feet and was abandoned. The top of the Dakota in these wells ranged from around 3,000 to 3,400 feet above sea level. The Gulf's test has for its objectives the formations below the top of the Pennsylvanian.

The Gulf Oil Corp. is one of the largest owners of leases in eastern Colorado where close to 4,000,000 acres have been leased, mostly by the majors. The company has been engaged for some time in one of the most extensive and comprehensive geophysical surveys made of that general area.

LaPlata County

Detroit Oil Association No. 1, NW SW sec. 9-35n-12w. Drlg. 3,170 ft.
McGarr Pet. Co. No. 1 Pinon Mesa Land Co., CSL NE NE sec. 34-33n-12w. Cmtd. 6¼-in. at 3,450 ft.; D.D. to 3,680 ft.; S.D.

Larimer County

The Continental Oil Co. No. 8 Buckeye-U.P., on the Wellington dome, tested the Sundance at a total depth of 4,992 feet and encountered water. It is plugging back to 4,500 feet to test saturation in the Dakota, where it had a show of oil and gas on the way down. This test is north of a fault which bisects the structure from the northwest to the southeast. Several years ago the Sundance was tested south of the fault.

Continental Oil Co. No. 8 Buckeye-U.P., C NE SW sec. 1-10s-68. T.D. 4,992 ft.; P.B. to 4,500 ft.

Las Animas County

Garcia Corp. No. 1 McClung, NE NW SE sec. 19-33s-61. M.I.M.

Lincoln County

Consolidated Smelting & Metals Co. No. 1 Hancock, NE NE SW sec. 7-17s-62. S.D. 2,096 ft.

Moffat County

The Continental Oil Co. No. 1 Henderson, SW cor. section 16-3n-91, an old gas well on top of the Thornburg (Morapas) dome, which was drilled deeper to test the Sundance, proved a disappointment and will be completed as a small gas well. It had the top of the Sundance at 2,525 feet. Sand was hard and tight to 2,553 feet. From 2,553 feet to 2,575 feet cores showed some oil and gas saturation. After setting pipe, however, there was insufficient pressure to produce the oil. It then drilled

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to a total depth of 2,642 feet, where it had a little water. It was plugged back to 2,575 feet and completed for 1,550,000 feet of gas a day. The old well was drilled to 2,505 feet, barely in the top of the Sundance formation, and was plugged back to 2,373 feet and completed in 1926 for 30,000,000 feet in the Dakota. The elevation is 7,025 feet. When deepening started it was expected that it would go to the Tensleep at around 4,500 feet. The Moffat and Iles fields, in the immediate vicinity, which produce oil from the Sundance, have never been tested below the red beds.

Mountain Fuel Supply Co. No. 1 Allen, NE SW SE sec. 32-12n-97w. Cg. 4,483 ft.
Mountain Fuel Supply Co. No. 1 Kuykendall, NE NE SE sec. 22-12n-100. Drlg. 2,712 ft.
Morapas Pet. Co. No. 1 Cole, C SW SE sec. 1-3n-92 Rig up; bldg. winter camp.

Morgan County

Swisher et al No. 1 Lunt, 92 ft. W of E line and 360 ft. N of S line, sec. 3-4n-60. T.D. 1,718 ft.; tstg.

Montezuma County

McElmo Oil Co. No. 1 West, NE NW NE sec. 21-26n-117w. S.D. 3,960 ft.

Park County

South Park Oil Co. No. 1 Lemar, NE NE SE sec. 34-11s-75. Drlg. 1,690 ft.
South Park Oil Co. No. 1 LeBert, NE NE NW sec. 21-11n-75w. S.D. 705 ft.
South Park Oil Co. No. 1 State, SE NE SW sec. 16-11s-75w. Drlg. 5,190 ft.; 4½-in. 5,150 ft.

Routt County

Mid-Colo Pet. Co. No. 1 Omoholt, NE SE SE sec. 29-4n-87w. S.D. 2,910 ft.; renewing leases before drlg. into Sundance.

Washington County

I.T.I.O.-Carter-Foster Minerals Corp. No. 1 Vorce, C NE NE sec. 28-1s-49. Drlg. 6,825 ft.

Weld County

Continental Oil Co. No. 2 Briggs, C NE SW sec. 13-6n-61. Cd. 2 ft. deeper in Muddy sd. to 6,665 ft.; top of sd. 6,661 ft.

WYOMING

Albany County

California Co. No. 4 Hoist, SE sec. 13-17n-77. T.D. 3,375 ft.; cmtd. 7-in.
Hal Blakeman No. 1 Chapple, C NE NW sec. 31-21-76. Drlg. 1,589 ft.
California Co. No. 1 Bath, NW NW SW sec. 4-16n-75. R.U.R.

Big Horn County

The Ohio Oil Co. has a completion in the Byron field in its No. 1 Irene Lindsay, C NW SE section 23-56-97, at a total depth of 5,318 feet. It swabbed 250 bbls. first 24 hours and is rigging up for a pumping test. It topped the Embar lime at 5,005 feet and cemented the 7-inch at 5,080 feet with 750 sacks. The Tensleep was at 5,177-5,318 feet and the hole was still in that horizon when drilling stopped.

The Stock Oil Co. No. 1-B Allen, Lot 52, section 32-56-97, a directional hole being drilled in continuation of the efforts to bring No. 1 Allen under control, is drilling at 235 feet in a 19-inch hole. It is located 190 feet north and west of the gasser which has been out of control for more than eight months.

Stock Oil Co. No. 1 Allen, Lot 52, sec. 32-56n-97. T.D. 3,825 ft.; on fire; pmpg. in wtr.
Stock Oil Co. No. 1-B Allen, Lot 52, sec. 32-56n-97. Drlg. 235 ft. in 19-in. hole.
Ohio Oil Co. No. 1 Wiley, C NE NW sec. 25-56n-97. Drlg sh. 1,750 ft.
Ohio Oil Co. No. 2 Smith, CWL NE SE sec. 32-56-97 T.D. 3,882 ft.; redrlg. 2,498 ft. after cmtng off blt.
Ohio Oil Co. No. 2 State, NE cor. Lot 38, sec. 36-46n-97. R.U.
Taylor Oil Co. No. 1 Robinson, SW SW NW sec. 24-56n-97. Drlg. 1,790 ft.
Peay Oil Co. No. 1 Denio Hr., 43-C, sec. 15-55n-87w. Drlg. 3,885 ft.; 6⅝-in. at 3,840 ft.
Stock Oil Co. No. 1 Griffin, Lot 60, sec. 4-55n-97. Drlg. 3,048 ft. in red beds.
Peter Evanoff et al No. 1 McAllister, NW NE SE sec. 9-55n-87. Drlg. 2,968 ft.

Carbon County

Medicine Bow Oil Co. No. 1 Hintze-Govt., C NE SE sec. 18-22n-78. Drlg. 1,640 ft.;; Muddy sd. hd. and tight at 1,476-86 ft.; soft with some gas at 1,486-95 ft.; hd. sd. at 1,495-1,510 ft.
General Pet. Corp. No. 1 Union Pacific, SW NW sec. 19-83w. Drlg. 4,726 ft.
Ohio Oil Co. No. 1 Hatfield, NE SE NW sec. 2-19n-83. Tstg. Dakota at 3,933-50 ft. after P.B. from 4,676 ft.
Ohio Oil Co. No. 11 Harrison & Cooper, NE SW SW sec. 35-20n-78. Drlg. 2,738 ft.; S.O. in Dakota at 2,663-2,711 ft.
Sinclair-Wyoming Oil Co. No. 10 Govt., SW SE NW sec. 7-26-89w. Drlg. 5,180 ft. in r.b.

Converse County

Chadron-Osage Oil Co. No. 1 State, SW SW sec. 16-32n-69w. S.D. 3,050 ft.; may install rotary.
Wyoming Southern Oil Co. No. 1 Salisbury, NW NW SE sec. 27-32n-69. Drlg. 300 ft.

Campbell County

G. J. Shearin et al No. 1 Rhodes, NE SE SW sec. 24-49n-74. S.D. 191 ft.

Fremont County

The Sinclair-Wyoming Oil Co. No. 2-C Muskrat on the Muskrat dome is at an interesting stage at a total depth of 7,293 feet. It topped the Embar lime at 7,268 feet and cored 25 feet of oil saturation to present total depth. The 7-inch was cemented at 7,265 feet and plug is being drilled preliminary to making a test. The well is located 1½ miles to the southeast of the discovery in the NW SE SE section 34-34n-92, which was completed in 1928 at 4,340 feet for 75,000,000 feet of gas with a rock pressure of 1,300 pounds. The drilling well is separated from the discovery by a fault. It had water in the Sundance at 5,935-6,188 feet and was continued on as a test to the Tensleep. One and one-half miles to the northwest another test was abandoned at 4,810 feet after plugging back from 6,081 feet, in 1929. The three wells are located in three separate fault blocks.

C. E. Nelson No. 2 Enos, SW NE SW sec. 27-3n-1w. Drlg. 326 ft.
Tropic Oil Co. No. 1 Govt., C SE SW sec. 34-27n-90w Drlg. 2,890 ft.
Sinclair-Wyoming Oil Co. No. 2-C Muskrat, NE SW SW sec. 1-33n-92w. T.D. 7,293 ft.; prep. to test.

Goshen County

Ohio Oil Co. No. 1 Waggoner, C NE NE sec. 14-28n-63w. Cmtd. 12½-in. at 170 ft.

Hot Springs County

The Mountain States Power Co. No. 1 Mexico-Wyoming, SW SW NW section 11-46n-99, the discovery well in Little Grass Creek, completed as a gasser a number of years ago by the Mexico-Wyoming Oil Co., which recently went to water, was recompleted at old total depth of 2,901 feet after plugging back and redrilling for 1,500,000 feet a day with a rock pressure of 360 pounds.

Empire State Oil Co. No. 1 Larson, sec. 33-44n-93. S.D. 1,610 ft.; top of Frontier 1,575 ft.; dry.
Frudenthal No. 6, SE SE NE sec. 21-43-92. T.D. 405 ft.; tstd. 4 B.P.D.; will D.D.

Laramie County

Amerada Pet. Corp. No. 1 Morton, C SW SW sec. 13-13n-68. Drlg. 6,225 ft.

Lincoln County

Place Oil Co. No. 36, SE sec. 9-26n-113. Spd. and set 1 jt. of 15½-in. and S.D.; W.O. approval of bond.
Senrab Oil Corp. No. 3 Govt., CSL SE NW sec. 10-26n-113w. S.D. 1,020 ft.

Niobrara County

Two wells drilling to the south of production in the Lance Creek field are important wildcats and will be watched with considerable interest. One of these is the Adams-Louisiana Co. and Bay-Elwell No. 1 Spaugh, C NW NE section 18-35n-65, a mile to the south of the Mackinnie Oil & Drilling Co. No. 1 Thompson, the nearest producer. It is drilling at 3,585 feet. The other is Bay-Elwell No. 1 Joss, CSL SE NW section 1-34n-66, 6 miles to the south of the Lance Creek field. It is ready to spud. The tests are located on two supposed highs south of Lance Creek. No. 1 Spaugh is on the north high and No. 1 Joss on the south high.

George D. Parkinson, of Denver, who owns royalty interests in practically all the producing wells on the Iles dome in Colorado, except those on the Iles Investment Co. land, is financing the No. 1 Spaugh test on the north high. He has a one-fourth interest in the entire spread. The well was spotted on the basis of seismograph surveys made by the Adams-Louisiana Co., which assembled the block and which retains a 50 per cent interest. The remaining interest is divided equally between Harvey Elwell, a Kansas operator; Mr. Bay, of Bayer's aspirin fame, and Manning & Martin., drilling contractors. No. 1 Joss, on the south high, is being drilled for the Bay-Elwell interests by Manning & Martin on a straight drilling contract basis. This test also was located on a seismograph high by the Adams-Louisiana Co.

Argo Oil Co. No. 5 Elliott, C NW NW sec. 5-35n-65. Cmtd. 8⅝-in. at 3,757 ft. on top second Sundance.
Bay-Elwell No. 1 Joss, CSL SE NW sec. 1-34-66w. Ready to spud.
Continental Oil Co. No. 2-B Schuricht, SE SW SE sec. 6-35n-65. Drlg. 3,608 ft. var. sh.; Lakota at 3,470-3,510 ft.
Continental Oil Co. No. 2-A Dielman, NW NE NE sec. 7-35n-65. Dk.; W.O.R. equip.
Adams-Louisiana Co.-Bay Elwell No. 1 Spaugh, C NW NE sec. 18-35n-65. Drlg. 3,585 ft.
Holly Dev. Co. No. 1 Novick, NE SE SW sec. 6-35n-65 Drlg. 3,187 ft.
Lewis Gokel No. 1, NE SE NW sec. 31-35n-62w. Drlg 963 ft.
J. M. Huber Corp. No. 2 Joss, NE NE SW sec. 6-35n-65 M.I. rot.
Ohio Oil Co. No. 6 Putnam, C NW NW sec. 4-35n-65w Cmtd. 12½-in. and 10¾-in. at 191 ft. with 150 sacks.
Ohio Oil Co. No. 4 Rohlff, C SW NE sec. 32-36n-65w Spd. Oct. 18; cmtd. 12½-in. at 160 ft.
Riggs Oil Co. No. 2 Spaugh, SE SW SW sec. 32-34n-65w T.D. 350 ft.; fsg. (loc. cor.).
Chester Oil Co. No. 1 fee, NE NE NE sec. 14-39n-61 T.D. 940 ft.; U.R. at 906 ft.

Park County

General Pet. Corp. No. 1 Govt., NW NW NW sec. 33-47-100. Drlg. 1,212 ft.

Resolute Oil Co. No. 1 State, C NW SW sec. 16-57-101w. Drlg. 8,013 ft.

Platte County

Dividend O. & R. Co., Inc., No. 1, CSL NW SW sec. 17-24n-66. Drlg. 610 ft.

Sublet County

California Pet. Corp. No. 4-C, SW cor. sec. 34-27n-113w. Drlg. 375 ft.

Progressive Oil Co. No. 1 Haddenham, SE NW NW sec. 21-28n-113w. S.D. 385 ft.; rig moved away.

Sheridan County

Beaver Creek Oil Co. No. 1 Allison, SW SE sec. 15-55-85. Drlg. 3,200 ft.

Sweetwater County

Mountain Fuel Supply Co. No. 1 Cooper, C NW SE sec. 15-16n-104. Crew M.I.

Uinta County

Bridger Basin Oil Co. No. 1-B, NW NW SW sec. 10-14n-118. T.D. 1,850 ft.; making W.S.O.

W. D. Marshall No. 1 Govt., NW SW SE sec. 12-15n-118. Drlg. 1,400 ft.

Washakie County

Wyoming C. & R. Co. No. 4 Govt., NW NW NW sec. 31-48-90. T.D. 1,524 ft.; cmtd. 6¼-in. on top of sd. at 1,522 ft.; W.O.C.

Nystrom & Smoot No. 3 State, NE NE NE sec. 36-48-91. Drlg. 1,190 ft.

Yale Oil Corp. No. 1 Govt., SE SE SE sec. 25-48-91. Wtr. sd. 1,490-95 ft.; 8¼-in. cmtd. 1,588 ft.; oil sd. 1,560-67 ft.; W.O.C.

Ariton & Doyle No. 1 Govt., SW SW SE sec. 29-48-91. S.D. 1,132 ft. for wire line.

Woods-Callahan Oil Co., Ltd., No. 1 Keye, SE SE NW sec. 25-48n-91. M.I.M.

Bruce C. Teeters No. 4 Govt., NW SW NW sec. 31-48n-90w. Drlg. 150 ft.

Calhoun & Jefferies No. 1 Govt., SW NW SW sec. 30-48n-90w. Drlg. 1,900 ft.

Christensen & Thorne No. 3 Govt., NW SW SW sec. 31-48n-90w. Spdg. 168 ft.

Weston County

Charles Stough No. 4, CWL SW NW sec. 4-46n-63. Drlg 300 ft.

H. D. Wiltse No. 10, NE NW NE sec. 17-46-63. R.O.G.

John Brophy No. 1 Lemke, SE SE NE sec. 10-48n-65w. Drlg. 637 ft.

Conway Oil Corp. No. 1 Govt., C SE NW sec. 7-41n-60w T.D. 2,700 ft.; P.B. to 2,345 ft. to S.O. bottom wtr.; W.O.C.

MONTANA

Big Horn County

Daniels Pet. Co. No. 1 May, C SE SE sec. 13-1s-33e. T.D. 3,540 ft.; M.I. rotary.

E. A. Lammers & Son No. 1 Berhold, SW SW NW sec. 1-1s-32e. Drlg. 739 ft.

Cascade County

C. Leonard Smith No. 1 Smith-Schwingle, NE NE SW sec. 14-22n-2e. Saved as wtr. well at 210 ft.; skidded rig 25 ft. north.

Carbon County

East Bridger O. & G. Co. No. 1, CSL SE SE sec. 23-6n-23e. Drlg. 940 ft.

Ohio Oil Co. No. 1 Northern Pacific, SE NE SW sec. 11-7s-21. Drlg. in at 5,549 ft.

Henderson Producing Co. No. 1-H-11 Elk, 11, SE SE NW sec. 35-9s-23e. Drlg. 417 ft. in 15½-in. hole.

Round Butte O. & G. Co. No. 2, CWL NE SE sec. 3-8s-23e. Drlg. 445 ft.; 12½-in. at 88 ft.; 10-in. at 404 ft.

Fallon County

Montana-Dakota Utilities Co. No. 1 Smith, Unit 8, C SE NW sec. 8-4n-62e. Spdg.

Montana-Dakota Utilities Co. No. 1 Warren, Unit 5, C SW sec. 23-8n-59e. R.U. boilers and M.I. rotary tools.

Fergus County

Minnesota Co. No. 1 Fenholt, SE NW SW sec. 24-21n-18e. S.D. 1,100 ft.; tools still in hole.

Judith Operating Co. No. 2 Govt., NW NE sec. 5-22n-17e. Drlg. 3,072 ft.

Kalispel-Kevin Oil Co. No. 2 Emmons, C SW SE sec. 20-2s-18e. S.D. 496 ft.; C.D.

Emmons et al No. 3, SE NE NE sec. 6-21n-18e. Drlg. 716 ft.

Glacier County

The Cut Bank field had five completions, of which one was a dry hole and one a gas well. The outstanding completion was A. B. Cobb No. 2 Jackson-Reagan, NE NE NW section 5-32n-5w, in the south end of the pool. It swabbed 240 bbls. first 15 hours at a total depth of 2,843 feet, making 20 bbls. the last hour when tank was full. It is an east offset to the same firm's No. 1 Jackson-Reagan which swabbed 130 bbls. initially. The Sunburst at 2,765-75 feet was dry. The Cut Bank sand was at 2,786-2,838 feet and the pay at 2,812-17 and 2,835-38 feet. Oil rose 2,200 feet in the hole. Elevation 3,652 feet.

R. C. Tarrant No. 8 Haglund, Jr., CEL NE NW section 13-34n-6w, which was reported a completion two weeks ago at 2,845 feet with 300 feet of oil in the hole, was plugged and abandoned.

The Montana Power Gas Co. No. 1 Hattie Miller, C NW section 1-35n-5w, was completed at 2,819 feet for 1,000,000 feet of gas. The Sunburst was at 2,732-60 feet and the Cut Bank at 2,770-2,815 feet. It gauged 2,000,000 feet at 2,780-84 feet and then decreased to 1,000,000 feet at completion.

The Montana Power Gas Co. No. 2 Gaines, CSL SW NW section 6-33n-5w, was completed at 2,827 feet and swabbed 51 bbls. the first 20 hours. It was then shot with 5 and 10 quarts and responded by swabbing 27 bbls. per day. The Sunburst at 2,745-55 feet swabbed 5 bbls. of water per hour. Top of the Cut Bank sand was at 2,775 feet and top of Ellis at 2,825 feet. The pay was at 2,815-25 feet and elevation is 3,779 feet.

The Texas Co. No. 2 Tribal-121, C NE SE section 36-33n-6w, has 840 feet of oil at a total depth of 3,016 feet and is preparing to swab. The 7-inch was cemented at 2,988 feet and top of the Ellis was at 3,010 feet.

The Texas Co. section 9 Unit No. 3, C SE SW section 9-32n-5w, for which location was released several weeks ago, will not be drilled at present.

Four new locations were released.

The practice followed in designation of location of wells in the Rocky Mountain area differs somewhat in certain respects from that in other areas and the method is repeated here to avoid confusion. The designation, for instance, that a well is in the "CEL NE NW" of a section does not mean it is on the line, but back from the lease boundary. Tarrant No. 8 Haglund, for instance, is 660 feet from the north line and 2,310 feet from the west line. It is carried as CEL NE NW.

A. B. Cobb No. 2 All.-115, SE NE SE sec. 31-33n-5w. R.U.

Drumheller Reservation Synd. No. 1 Tarrant, C SW SW sec. 2[illegible]-34n-6w. Drlg. 1,0[illegible] ft.

H. F. Patterson No. 1 Cole, C NE SW sec. 2-32n-6w. T.D. 2,220 ft.; C.O. 2,175 ft.

Wm. Hanlon, Agt., No. 1 All.-128, C SE NE sec. 12-32n-6w. R.U.

Montana Power Gas Co. No. 3 Simero, C NE SE sec. 6-33n-5w. Loc.; (first report).

Montana Power Gas Co. No. 1 Schuette Unit 1, 2,640 ft. E of W line, 500 ft. S of N line, sec. 5-34n-5w. Loc.; (first report).

Nadeau Bros. No. 2 Ewald, C SE NW sec. 9-32n-5w. Drlg. 1,800 ft.

R. C. Tarrant No. 3 State, NE SE NE sec. 36-34n-6w. Cmtd. 7-in. at 2,875 ft.

R. C. Tarrant No. 7 Getty, SW NW SW sec. 2-34n-6w. Drlg. 1,650 ft.

R. C. Tarrant No. 3 Reichoff, C NE NE sec. 36-32-6w. Drlg. 2,145 ft.

Vern Johnson No. 1 Tribal-118, C SW SW sec. 1-32n-6w. S.D. 2,900 ft. for 8¼-in.

Texas Co. No. 4 Tribal-121, C NW SE sec. 36-33n-6w. Spd. Oct. 14; drlg. 1,300 ft.; 10¾-in. 324 ft.; (first report).

Texas Co. No. 6 Tribal-122, C NE SE sec. 6-32n-5w. Sump.; (first report).

Texas No. No. 3 Tribal-121, C SE SE sec. 36-33n-6w. Drlg. 360 ft.; 10¾-in. 313 ft.

Texas Co. No. 5 Tribal-122, CNL SW SW sec. 5-32n-5w. Drlg. 2,890 ft.; 7-in. cmtd. 2,886 ft.

A. E. Wilkinson No. 2 All.-127, C SE NE sec. 1-32n-6w. Drlg. 560 ft.

A. E. Wilkinson No. 2 Tribal-126, NW NW NW sec. 7-32n-5w. T.D. 90 ft.; fsg.

Judith Basin County

Fletcher E. Hunt No. 3, NW SE NE sec. 30-14n-15w. Drlg. 1,451 ft.

Musselshell County

Geo. Gregory et al No. 24-A Govt., NW SW NW sec. 25-11n-24e. Drlg. 326 ft.

Petroleum County

Homestake Oil Co. No. 25-A, SE NW NW SW sec. 10-15n-29e. Drlg. 750 ft.; 10-in. 323 ft.; (first report).

H. C. Rowland No. 1 Kalispel, NE NE SE sec. 35-14n-25e. Drlg. 405 ft.

Phillips County

Montana-Dakota Utilities Co. No. 1 Garrison, SW SE SE

(Continued on Page 89)

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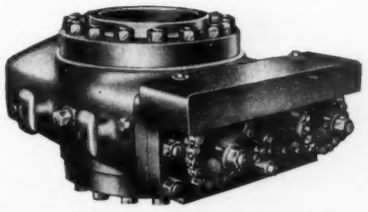

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EXPORT-OIL WELL SUPPLY COMPANY

West and North Texas

By
L. E. BREDBERG

CUMMINS-GOLDSMITH POOLS MAY BECOME A 12-MILE FIELD

FORT WORTH, Tex., Oct. 26.—Schleicher County's possible Ordovician producer was closely watched this week as it was swabbed, yielding 41 gravity oil plus some water from the Ellenberger. Another 2½-mile extension was made to a recently discovered area in northwestern Ector County.

Empire Gas & Fuel Co. No. 1-C Cummins, located in section 22, Block 45, Township 1n, T.&P. Survey, 2½ miles northwest of the Cummins pool in northwest Ector County, logged oil and gas pay from 4,190-4,203 feet the latter part of the week, and started flowing by heads. The bailer was lost in the hole and a fishing job is now holding up the testing and completion of the well. No estimate of its potential can be made under its present status. Total depth of the hole is 4,205 feet. It flowed 65 bbls. of oil in three heads and when the bailer is fished out the hole will probably be deepened in an effort to log more porosity and increase the flow. It is also located about 1½ miles southeast of a small producer and about three-quarters of a mile south and a little west of a dry hole drilled by Empire Oil & Refining Co. to 4,557 feet, which may preclude the possibility of linking production from the Cummins pool with the Davidson producer to the north, although production may swing to the west of the dry hole.

The Cummins pool is also expected to be tied into the Coldsmith field farther to the southeast, and if that proves out, and this new well proves an extension to the Cummins pool, then the Goldsmith-Cummins pool will extend from southeast to the northwest for about 12 miles, the longest if not the largest field in the county. The field has not been defined in any direction as yet, extensions still being made on the east side of the Goldsmith field, with no wells drilled in outpost territory to the west, consequently it is not known just how wide this field will prove to be when outlying acreage is tested.

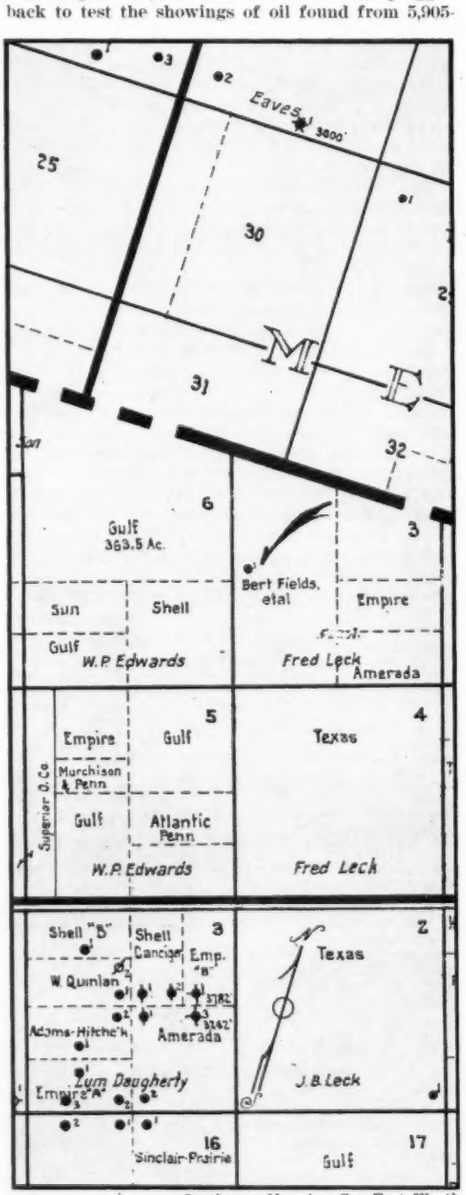
Cochran Discovery

The Cochran County discovery of the Cascade Oil Corp. and others on the Duggan lands, in Labour 13, League 55, Oldham County School Lands Survey, in the southeast corner of the county, is bottomed at 5,087 feet in lime and pulling 8¼-inch pipe preparatory to shooting with nitroglycerin. The well showed a little salt water at 5,080-82 feet and is to be plugged back a few feet before shooting, as was done in the Yoakum County discovery about 27 miles to the south of this new discovery, and which also was opened by the Cascade and the Honolulu corporations, about a year ago. The Cochran County well has been flowing around 50 bbls. of 29.8 gravity oil per day and around 12 bbls. of water, but shooting will no doubt increase the flow several times over this amount of oil per day. Outcome of shooting and testing are anxiously awaited by the West Texas oil fraternity, as this is the northernmost producer and discovery in the Permian Basin, and opens a vast amount of territory to exploration, with the expectations that other fields will be uncovered in this sector of the district. It is one of the most, if not the most, important discovery made in the district since the Yoakum County discovery last year, due to its location in the district.

Ordovician Showings

The wildcat Ordovician test of Magnus Oil Co. and others on the Judkins and Spencer lands in eastern Schleicher County, 14½ miles east of Eldorado, drew more attention to itself this week when it was credited with yielding around 5 bbls. of fluid per hour, mostly oil, when swabbed twice hourly through tubing. One report carried the news that it swabbed 120 bbls. of oil in five hours. The water was reported to be decreasing and was believed to be drilling. The oil tests 41 gravity, and is coming from the Ellenberger, the pay member of the Ordovician, from which production is coming in the deep wells in the Big Lake field, Reagan County, and one well in western Crane County.

The Magnus well is in the W. W. Russell Grantee Survey, on a block farmed out by the Pure Oil Co. It topped the Ellenberger at 5,902 feet, 3,693 feet below sea level and drilled to a total depth of 6,527 feet before it was plugged back to test the showings of oil found from 5,905-15 feet. It was acidized with 2,000 gallons, but the 3½-inch upset tubing in the hole is to be pulled and another dose of acid, much heavier than the first, given the lime in hope of making a flowing well of it.



—Southwest Mapping Co., Fort Worth.

Location of wildcat well which may prove a connecting link between the Leck pool in northern Winkler County, Texas, and the Eaves pool over the State line, in New Mexico

Possible Extensions

Richardson Oils, Inc. No. 1 Bashara, located in section 21, Block 77, P.S.L. Survey, northern Winkler County, is promising a mile north extension to the Keystone pool. Seven-inch casing was set and cemented at 3,200 feet.

New Wildcats

The Stanolind Oil & Gas Co. has staked location for its second test in Gaines County. The company is drilling one in section 18, Block A-21, P.S.L. Survey. The new location is in section 20, Block A-24, on the Morrow lands, and about 3 miles west of the first test, which is fishing for tools at 4,678 feet. Both are important wildcats for the county.

Another wildcat of importance is scheduled to be drilled in Terry County, about 10 miles to the northwest of one now going down and showing oil in Dawson County. This new test will make the third for the county, with one other now standing shut down after spudding and the other drilling ahead. W. L. Pickens, of Dallas, and associates are to drill this new test. Location is on the Estella Lewright lands, in section 1, Block C-37, P.S.L. Survey. The Tide Water Oil Co., Humble Oil & Refining Co., Mid-Continent Petroleum Corp., Magnolia Petroleum Co. and others, have purchased acreage surrounding the test and in the area which falls in Block T, D.&W. Survey, Blocks C-38, C-39 and C-37, P.S.L. Survey. The test will go to 5,500 feet according to contract let to the Davidson Drilling Co.

Charles J. Kleiner of Cisco is preparing to sink a wildcat test on the G. Fields lands, in the Samuel Andrews Survey No. 191, 3 miles east of the new Guitar pool and 4 miles from Hawley, Jones County. This is one of five new tests, two of which are already drilling in the county. The others are: Oyster and Griffit's No. 1 Bumpass, located in the A. Jones Survey, 3 miles southwest of Truby; K.O.T. Oil Co. No. 1 E. C. Duke, in section 20, Block 15, T.&P. Survey, 1 mile north of Hawley; and Tiner and others No. 1 Rainwater, located in section 34, Block 2, S.P.Ry. Survey. The first two are drilling and the others are only locations.

The Humble Oil & Refining Co. is also drilling a wildcat in Jones County, the first to be drilled in the area by a major company for several years. The company has a block of some 1,100 acres about 5 miles southwest of Lueders in the eastern part of the county. Location of the test is on lands of Dr. J. M. Alexander, in Lot 4, section 6, William C. Walker Survey, about 1½ miles northeast of a small discovery on the Spurrier lands.

Wildcat Abandonment

The California Co. No. 1 Calverly, located in the southwest quarter of section 25, Block 35, Township 3s, T.&P. Survey, western Glasscock County, has been abandoned at a total depth of 3,454 feet after logging sulfur water at 3,416 feet. It is 6 miles northwest of Garden City.

Ranger and Wichita Falls Districts

Ordovician production may still become a fact for the De LaFosse ranch in eastern Shackleford County through the drilling of the third deep test on the ranch. Humble Oil & Refining Co. and Pitzer & West No. 3 George De LaFosse, located

in T.E.&L. Survey No. 1,549, encountered a good showing of oil and gas at 4,382 feet in the top of the Ellenberger, and is drilling ahead slowly in hopes of making a producer and opening the county's first Ordovician production. The first test drilled in this area looked as a producer, but the hole was junked after a prematurely exploded shot damaged the pipe. The second deep test drilled on the ranch proved a dry hole, and another test was drilled a couple of miles to the west by Roeser and Pendleton, but it too proved a "duster." The Humble Oil & Refining Co. purchased a half interest in the block from Pitzer and West after the showing was made in the first test. A deep discovery here would arouse interest in deep drilling in the area.

The Alliance Oil Co. of Fort Worth has made location and is preparing to sink a 3,600-foot test on the Mary Roberta Miller farm in the J. T. Ayres Survey, 1½ miles south of a small producer in the Callisburg area in Cooke County. Several other independent companies and individuals are interested in the test which is seeking the Big Indian No. 1 Davis production found to the north.

Test in Denton County

C. V. Minnick and others have staked location for a wildcat test on the C. N. Price lands, located in the J. Douthitt Survey, in Denton County. This county has seen but little prospecting for oil in the past, but with interest being renewed and gaining in the adjacent county, Cooke, and with a showing of oil made in a wildcat test abandoned last week in Denton, interest is picking up in this county and will no doubt continue to do so, with a number of wildcats expected to be drilled throughout the county in the next year or two.

Heavy rains during the past week slowed down drilling in the West Texas, West Central and North Central Texas districts, many roads being impassable so that a great number of wells were temporarily shut down.

Erath Wildcat

Frank S. Matheny of Los Angeles, has been reported as leasing a block of some 10,000 acres in Erath County, on which a test is expected to be drilled to 5,000 feet in quest of Ordovician production, testing the Marble Falls lime, which has paid off in two gas wells to the south in Hamilton County.

WEST TEXAS COMPLETIONS

Crane County

Gulf Oil Corp. No. 139 McElroy, 2,793-2,918 feet, shot, 9,771 bbls. Henderson No. 1-C Hughes, 2,010-2,144 feet, plugged back, acidized, 556 bbls. in 18 hours. Mann No. 2 Durham, 2,439-2,505 feet, acidized, 465 bbls.

Ector County

Continental Oil Co. No. 1 Edwards, dry and abandoned 3,700 feet, elevation 2,816 feet. Gulf Oil Corp. No. 10-B Connell, 4,163-4,200 feet, shot, 86 bbls. in 11½ hours. York & Harper No. 1 York, dry and abandoned 4,330 feet, elevation 3,059 feet.

Glasscock County

California Co. No. 1 Calverly, dry and abandoned 3,378 feet, elevation 2,625 feet.

Jones County

Danciger Oil & Refining Co. No. 2 Dorsey, 2,221-22 feet, 150 bbls. per hour.

Pecos County

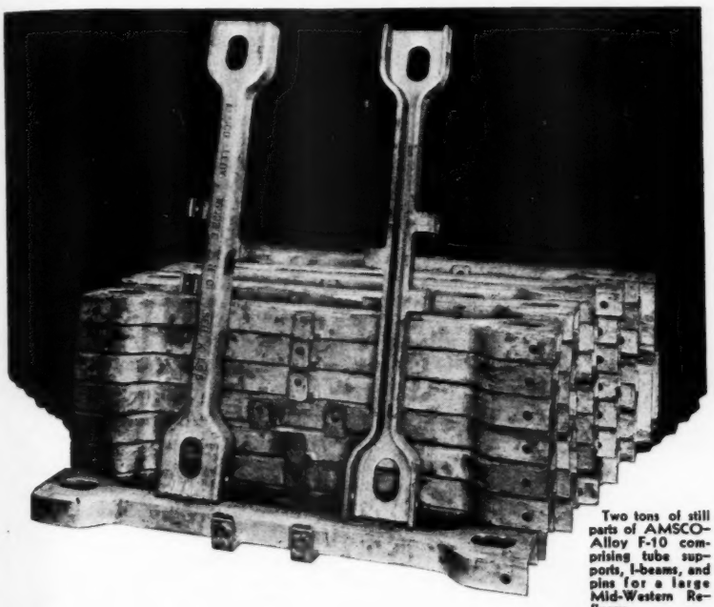
Anderson No. 1 White and Baker, dry and abandoned 2,282 feet. Childress No. 10 Smith, dry and abandoned 368 feet.

Upton County

Black and others No. 6 Lane, 2,322 feet, 120 bbls. Texas Pacific Coal & Oil Co. No. 2-S Sherk, 2,470-2,600 feet, acidized, 131 bbls.

Ward County

California Co. No. 42 Durgin, 2,362-2,545 feet, shot, 250 bbls. Mid-Continent Petroleum Corp. No. 4 Potts, 2,260-2,390 feet, shot, 275 bbls. Peck and Atlantic Refining Co. No. 3 Reynolds, dry and abandoned 2,353 feet. Sinclair Prairie Oil Co. No.



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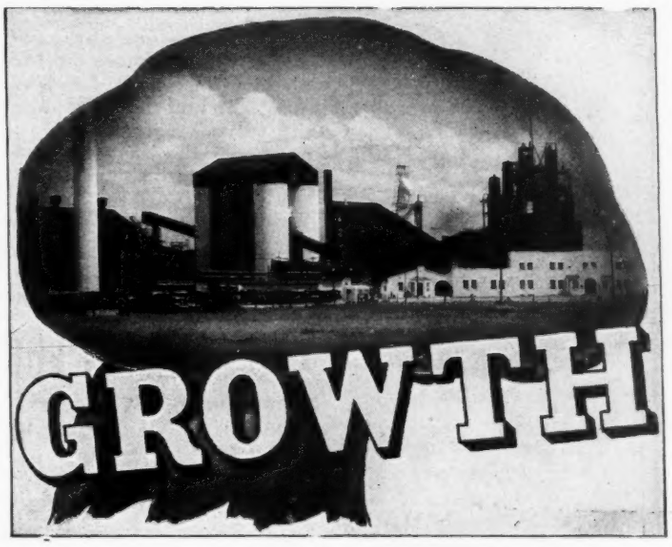

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4 Hill, 2,277-2,510 feet, shot, 514 bbls. Turman No. 4 Archenhold, 2,500-3,045 feet, shot, 125 bbls.

PANHANDLE COMPLETIONS

Carson County

Empire Gas & Fuel Co. No. 6-D Magnolia, 2,942-3,050 feet, shot, 851 bbls. on pump. Huber Petroleum Co. No. 2-B Burnett, 2,555-2,890 feet, 14,750,000 feet gas. Texoma Natural Gas Co. No. 2-T Burnett, 2,125-2,400 feet, 35,231,000 feet gas.

Gray County

Gardner Brothers No. 3 Barrett, 3,195-3,279 feet, shot, 868 bbls. on pump. Kewanee Oil & Gas Co. No. 2 Hughey, 2,949-3,088 feet, shot, 253 bbls. on pump. King Oil Co. No. 5 Brown, 3,222-75 feet, shot, 700 bbls. on pump. Magnolia Petroleum Co. No. 2 Cantrell, 3,064-71 feet, 384 bbls. on pump; No. 7 Haggard, 3,312 feet, shot, 646 bbls. on pump. Stanolind Oil & Gas Co. No. 8-C Cobb, 3,285-3,331 feet, shot, 304 bbls. on pump.

Hutchinson County

Benonine Oil Co. No. 2 Starnes, 3,110-76 feet, shot, 1,139 bbls. Devore Oil Co. No. 2 Hodges, 2,995-3,053 feet, shot, 498 bbls. on pump. Gulf Oil Corp. No. 7 Pitcher, 3,115-96 feet, shot, 483 bbls. on pump. Holmes & Newblock No. 4 Moore, 3,018-70 feet, shot, 690 bbls. on pump. Stanolind Oil & Gas Co. No. 6-A Ware, 3,080-3,175 feet, shot, 522 bbls. on pump. Timms-Robinson Oil Corp. No. 3 Moore, 3,065-3,136 feet, shot, 435 bbls. on pump. Devore and others No. 1 Hodges, 2,998-3,070 feet, shot, 94 bbls. oil and 92 bbls. of water on pump. Herregon Petroleum Corp. No. 1 Hodges, 3,033-3,100 feet, shot, 89 bbls. oil and 95 bbls. water on pump. Phillips Petroleum Co. No. 1 Staples, 3,130-85 feet, shot, 612 bbls. on pump; No. 1 Wild Bill, 2,320-2,600 feet, shot, 18,760,000 feet gas. Skelly Oil Co. No. 3 Watkins, 2,819-2,925 feet, shot, 601 bbls. on pump. Stanolind Oil & Gas Co. No. 9-A Watkins, 2,960-3,021 feet, shot, 623 bbls. on pump.

Moore County

Anderson and Kerr Petroleum Corp. No. 2-A Taylor, 2,890-3,139 feet, shot, 33,175,000 feet gas.

Wheeler County

Smith Brothers No. 11 Harlan, 2,547-55 feet, 314 bbls. on pump; No. 3 Massey, 1,965-2,131 feet, 33,000,000 feet gas.

NORTH TEXAS COMPLETIONS

Archer County

Archer Drilling Co. No. 1 Harris, 1,451 feet, dry. Phillips & Healey No. 1 McElreath, 693 feet, dry. M. Staniforth No. 5 J. J. Perkins, 1,615-23 feet, 10 bbls.

Baylor County

McCue and others No. 1 W. H. Hale, 1,701 feet, dry. Petroleum Producers Co. No. 36 W. H. Portwood, 1,378-89 feet, 15 bbls.; No. 37 W. H. Portwood, 1,407-11 feet, 50 bbls.

Cooke County

Anderson & Kerr No. 1 F. A. Bruhlmeyer A, 2,088-2,100 feet, 290 bbls. Denver Producing & Refining Co. No. 2 Ed Wilson, 1,984-2,001 feet, 25 bbls.; No. 4, 1,987-2,022 feet, 125 bbls. Dove Oil Co. No. 3 J. A. Carr, 1,923-46 feet, 160 bbls. R. W. Fails No. 2 Powell, 1,338-62 feet, 10 bbls. F. W. Merrick, Inc., No. 4 T. C. Davidson, 1,949-60 feet, 15 bbls. Leo Portman No. 1 F. A. Bruhlmeyer, 2,098-2,120 feet, 200 bbls. Rapp Sledge & Gleason No. 2 J. T. Beasley, 2,070 feet, dry; No. 4 Mrs. C. A. Brown, 1,983-2,000 feet, 65 bbls. Reed and others No. 1 V D. Randall, 2,520 feet, dry. J. C. Shaffer, Inc., No. 2 A. Towery, 2,090-2,105 feet, 330 bbls. United Producing Co. No. 6 R. W. Trew, 1,634 feet, dry. Whitfield and others No. 3 F. C. Owen, 1,913-51 feet, 110 bbls.

Montague County

Bridwell Oil Co. No. 1 J. S. Dennis B, 1,668-75 feet, 110 bbls.

Jack County

Cato Oil Co. No. 1 J. A. Raley, 3,011-26 feet, 425 bbls. K. E. Edmonds No. 2 Hunt, 490 feet, dry. Frank Greene No. 1 W. L. Sheilds, 667 feet, dry. L. A. Long and others No. 1 W. J. Smith, 2,900-2,905 feet, 15 bbls. J. R. Meaker and others No. 1

(Continued on Page 97)

Rocky Mountain Fields

(Continued from Page 85)

sec. 6-31n-34e (Bowdoin gas field). Drlg. 600 ft.; cmtd. 8¾-in. at 190 ft.

Pondera County

Clinch Pet., Ltd., No. 1 Holan, NW SW NW sec. 12-23s-6w. S.D. 2,200 ft.
Gordon Campbell No. 1 Hughes, NW NE NW sec. 12-30n-4w. S.D. 2,345 ft.
Kirk Oil Co. No. 1 Kellogg, SE NW NE sec. 31-28n-4w. Spdg. 85 ft.
Montana Power Gas Co. No. 1 Berger, C NE sec. 31-31n-4e. Drlg. 2,450 ft.

Sheridan County

Cheyenne O. & G. Co. No. 1 Olson, SE SE SE sec. 14-35n-53e. S.D. 2,615 ft.; 500,000 ft. of gas 1,050 ft. and 500,000 ft. at 1,305 ft.; S.O. with 12½-in.

Teton County

R. C. Tarrant No. 1 Jones, C SE NW sec. 3-26n-6w. M.I.M.

Toole County

The Par Oil Co. No. 1 Reynolds, SW NE NW section 31-33n-4w, a wildcat east of the Cut Bank field and southwest of the Kevin-Sunburst field, was plugged and abandoned at 2,885 feet. It had the Sunburst at 2,420-60 feet with a little water at 2,445-60 feet. The Cut Bank at 2,480-85 feet was dry. Top of the Ellis was at 2,485 feet and top of the Madison 2,655 feet. It made 10 bailers of water per hour. Elevation 3,680 feet.

A well much above the average was completed in the west end of the Kevin-Sunburst field in Nepstad, Montgomery & Taragher No. 2 Thompson, C SE SW section 2-35n-3w. It was completed 1 foot in the Ellis-Madison contact at 1,834 feet and oil rose 1,000 feet. After acidizing with 1,000 gallons it made 260 bbls. the first 24 hours and 250 bbls. the second period.

The General Oil Co. No. 3 Haggerty, NE SW SW section 13-35n-2w, has 600 feet of oil in the hole from the Ellis-Madison contact at 1,505-15 feet and will acidize. It had no Sunburst sand.

Dr. B. A. S. Aronow No. 3 Government, NE SE NE section 21-35n-3w, was completed at a total depth of 1,782 feet in the pay at 1,752-56 feet and after acidizing with 1,000 gallons, pumped and flowed 98 bbls. the first 24 hours.

There were no first reports.

Agen & Krause Co. No. 1 Krause, SE SE SE sec. 9-35n-3w. Loc.
Agen & Goeddertz No. 3 State, NE SW NE sec. 16-35n-3w. Drlg. 1,745 ft.; Sunburst at 1,510-26 ft.; dry.
Alexander-Sorrell No. 1 Strange, NE SE SE sec. 31-35n-3w. S.D. 1,585 ft.
Cassidy et al No. 3 Carlson, CNL SW NE sec. 22-35n-3w. Drlg. 1,701 ft.; 800 ft. wtr. at 1,643-1,701 ft.
Hulse Bros. No. 2 Davis, C NE SE sec. 14-35n-3w. T.D. 1,765 ft.; P.B. to O.S. 1,705-15 ft.; will acidize.
Coolidge & Coolidge No. 1 Haskins, SW SE SW sec. 25-36n-2w. Drlg. 1,270 ft.
A. E. Crumley No. 11 Shaw, SE NW NE sec. 35-36n-2w. Drlg. 400 ft.
W. M. Fulton No. 1 Thompson, NW SW NE sec. 28-35n-3w. Loc.
Stanley Gray No. 1 Aronow, CWL NW SW sec. 12-35n-3w. Drlg. 525 ft.
Pfabe & Engleking No. 1 Hurley, SW NE NW sec. 8-34n-2w. Drlg. 600 ft.
Frazier & Smith No. 1 Van Note, CWL SW NW sec. 30-35n-2w. S.D. 1,400 ft.
Munger No. 1 Peterson, NW NW SW sec. 8-35n-2w. Ellis-Madison at 1,648-54 ft.; will acidize.
Welch Bros. No. 2 Larum, SW SW NW sec. 25-35n-3w. Drlg. 925 ft.

Yellowstone County

R. C. Tarrant No. 1 Mosser, CWL SW NE sec. 26-3s-24e. Drlg. 2,430 ft. in wet hole; top Tensleep 2,220 ft.; swb. 75 bbls. in Dakota topped at 995 ft.; followed by wtr. at 1,015 ft.
R. C. Tarrant No. 1 Metzger, C SW NW sec. 8-2s-25e. Cmtd. 5 3/16-in. at 1,010 ft. on top Lakota which had est. 10,000 ft. of gas and 75 B.W.P.H.; 8¾-in. at 62 ft.; 6¾-in. at 640 ft.

NEBRASKA

Dawes County

Stephens Oil Corp. No. 1 Palmer, C NW SW sec. 1-32n-50w. Drlg. 1,831 ft.

Sioux County

J. M. Huber Corp. and United Producers, Inc., et al No. 1 Morgan, C SW SW sec. 32-95n-56w. Drlg. 1,837 ft.

Franklin County

Wm. Steinlee No. 1, SE NE SE sec. 25-1n-15w. Spdg. 60 ft

Grant County

Byrd-Frost, Inc., and Magnolia Pet. Co. No. 1 Abbott, NE NE NW sec. 22-24n-38w. T.D. 2,410 ft.; fsg.

UTAH

Daggett County

Mountain Fuel Supply Co. No. 1 State, NW SE SW sec. 16-3n-24e. Cg. 5,918 ft. in Dakota; top 5,739 ft.; S.G.

Emery County

California Co. No. 1 Palm Unit, C SW SW sec. 22-23s-11e. T.D. 2,285 ft.; circulating.

Grand County

Columbia Crude Corp. No. 1 Rath, NW SW sec. 12-25s-20e. S.D. 1,610 ft. to run 6¼-in.
Utah Southern Oil Co. No. 1 Hyde, SE NW NW sec. 33-22s-22e. Drlg. 5,468 ft.

Utah County

Diamond Oil Co. No. 4 Govt., CSL SE NW sec. 16-8s-5e T.D. 3,900 ft.; fsg. bit.

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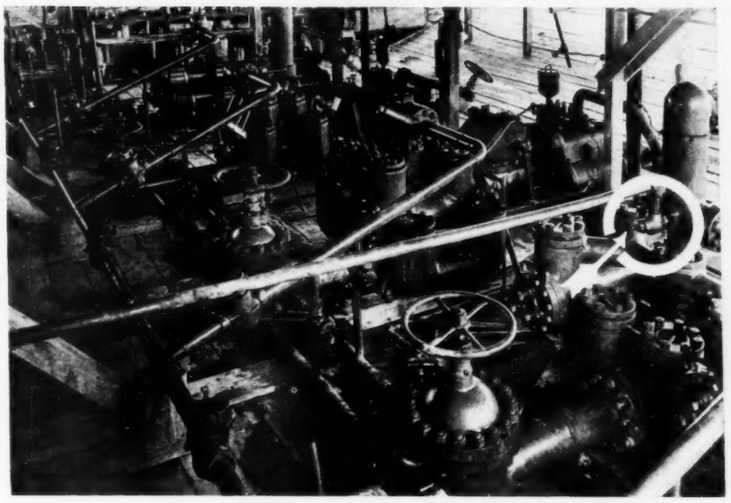

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The **SHEAR-RELIEF VALVE** is made in high pressure types for slush pump service with a pressure range of 1,000 to 2,750 pounds; low pressure types for gathering pumps, or similar service, with pressure range of 250 to 1,000 pounds.

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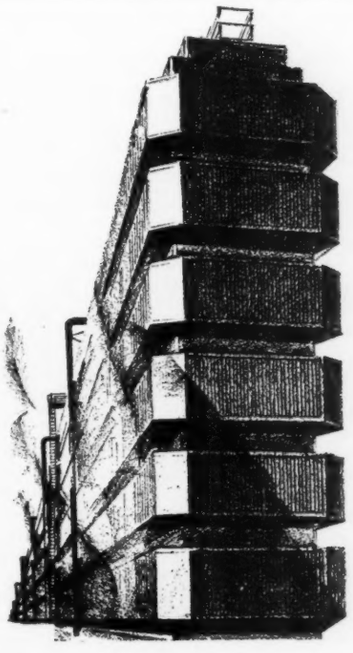

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BE SURE WITH FLUOR — FLUOR AERATOR TYPE COOLING TOWERS

DEPARTMENT OF GEOLOGY
THE UNIVERSITY OF NEBRASKA

Kansas Developments

By
DAL DALRYMPLE

CLARK COUNTY MAY GET OIL POOL; 74 NEW TESTS START

Work was started or locations announced for 74 new oil and gas operations in Kansas the past week. This makes a total of 115 new operations in the last two weeks, thus giving Kansas a good start toward the big drilling campaign anticipated for this winter.

The 74 new operations were divided among 19 counties as follows: Rice, 14; Russell, 14; Reno, 8; Barton, 7; Ellis, 6; Coffey, Woodson and Butler, three each; Sumner, McPherson, Ellsworth, Cowley and Stevens, two each; Chase, Harvey, Greenwood, Sedgwick, Stafford and Morton, one each. The first reports included two wildcats in Woodson County, and one wildcat each in Harvey, Rice and Stafford counties. Eight of the first reports were of old wells being deepened, and the remaining 61 were new operations in proven areas.

Clark County will get its first oil pool if operators are successful in making a commercial producer at Olson Drilling Co. and Watchorn Oil & Gas Co. No. 1 Morrison, C SE SW section 17-32-21w, which was showing as a Viola lime producer. The wildcat topped Viola lime at 6,467 feet and on drill stem test flowed 33 bbls. of oil and less than 2 bbls. of water in 30 minutes. Cores to 6,494 feet showed saturation. It was shut down, awaiting setting of 7-inch casing. If completed as an oil well, it will be the deepest producer in Kansas, the next deepest being the Shallow Water area in Scott County, where the pay is found at around 4,650 feet. Location is near the Morrison gas pool. Clark County adjoins Harper County, Oklahoma, on the north.

The Warkentine pool of Harvey County was extended one-half mile north at Western Kansas Oil & Refining Co. and others No. 1 Detweiler, CEL SE NE section 2-23-2w, west of Newton. It topped Chat at 2,961 feet and was bottomed at 2,993 feet. It flowed through 8-inch casing over top of derrick, and production was estimated variously from 100 to 200 bbls. an hour. It was shut in for tankage. It is one-half mile and one location north and one location east of the 2,080-bbl. well recently completed by Tom Palmer in section 12-23-2w.

In Stafford County, Stanolind Oil & Gas Co., Amerada Petroleum Corp. and H. V. Elwell No. 1 Tudor-Morgan, old Lansing lime well in the St. John area, made potential of 1,663 bbls. after deepening to Siliceous lime at 4,083-87 feet. It previously produced from Lansing lime at 3,628 feet. Discovery of the deeper pay horizon is expected to be followed by the deepening of other old wells and drilling of new ones in the St. John area. The Tudor-Morgan is located at SE NW section 23-24-13w, about 5 miles southeast of St. John.

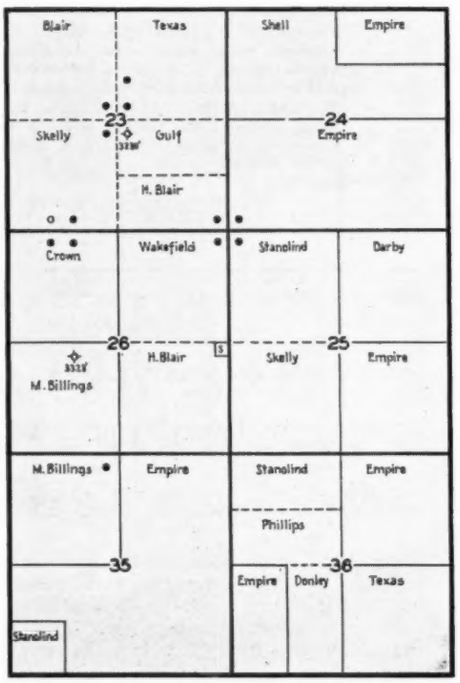
Saco Oil Co. has spudded at their No. 1 Gurney, SE SW SW section 23-14-14w, in the Gurney pool, 5 miles south of Russell. The Saco firm is drilling the well on the Gurney lease according to a farm-out deal recently completed. It is a west offset to the Skelly Oil Co. No. 2 Gurney on the same lease.

Rice County

John Stark and others No. 1 Doran, NE NE SE section 13-19-10w, Rice County wildcat that opened a new producing area northwest of the Chase field, was completed in Siliceous lime at 3,291-3,311 feet. It pumped 194 bbls. of oil, was acidized and made potential of 1,366 bbls. of oil and 3 per cent water, down three hours. Top of Kansas City formation was 2,935 feet; conglomerate, 3,250 feet.

In the Silica field, Mid-Continent Petroleum Corp. No. 7 Risse, SW SE NE section 6-20-10w, made potential of 2,556 bbls. of oil after acidizing and was completed at 3,310 feet, total depth. Siliceous lime was topped at 3,302 feet. Gulf Oil Corp. No. 3 Stoltz, Jr., SW SW NW section 5-20-10w, topped Siliceous lime at 3,308 feet; was bottomed at 3,325 feet, and after acidizing made potential of 1,806 bbls. of oil. C. B. Davis and others No. 12 Dueser, C E half W half SW section 31-19-10w, made potential of 1,165 bbls. of oil from pay at 3,275-84 feet, total depth, in Siliceous lime topped at 3,272 feet.

Torrey & Feaster No. 1 Rose, NW NW SE section 32-19-9w, in the Chase field, topped Siliceous



—Mid-Continent Map Co., Wichita.

This map of the Gurney area, Russell County, shows location of the well in SE SW SW section 23-14-14w, being drilled by Saco Oil Co. on a farm-out deal. It is a west offset of Skelly Oil Co. No. 2 Gurney

lime at 3,220 feet; had pay at 3,227-30 feet, total depth; pumped 335 bbls. of oil in 19 hours, was acidized and made potential of 579 bbls.

Sinclair Prairie Oil Co. No. 3 Specht, NW SE SE section 20-20-10w, in the Raymond sector, made potential of 408 bbls. after acid treatment. Top of Simpson was 3,264 feet; Siliceous lime, 3,292 feet; total depth, 3,295 feet.

Shell Petroleum Corp. and others No. 2 Tobias, SE SE NE section 6-19-9w, topped Siliceous lime at 3,208½ feet; had pay at 3,223 feet, and was bottomed at 3,240 feet. It swabbed 399 bbls. of oil in seven and one-half hours and produced 25 bbls. of oil an hour after a head. It was acidized and made potential of 1,875 bbls.

Texas Co. and others No. 1 Schartz, NE SE SE section 33-19-10w, an old well in the Schartz area east of Silica, was deepened to 3,326½ feet, acidized and made potential of 1,124 bbls. of oil, recompleted.

Slick, Pryor & Lockhart and others No. 4 Moran "A," SW NW NW section 4-18-10w, was completed at 3,273 feet, total depth, swabbed 577 bbls. in 24 hours; was acidized and made potential of 719 bbls. Siliceous lime was topped at 3,254 feet.

The following new operations were reported in Rice County: Shell Petroleum Corp. and others No. 3 Hafermann, NE NE SE section 6-19-9w, building rig; same operator's No. 1 H. Soeken "A," C NW section 10-19-9w, wildcat, moving in material; Lebow and others No. 4 Callis, NE NW SE section 16-19-9w, moving in material; Ohio Oil Co. No. 1 Wilcox, NW NW SW section 18-19-9w, location; Empire Oil & Refining Co. No. 2 Habiger, SW SE NE section 20-19-9w, drilling at 1,140 feet; same operator's No. 1 Weiland, NW NW NE section 5-20-9w, location; Roy Ramsey No. 5 Hilton "A," NE SW SW section 6-20-9w, rig; Mid-Continent Petroleum Corp. No. 8 Risse, NE cor. section 6-20-10w, building rig; Stanolind Oil & Gas Co. No. 7 Specht, SE SW NE section 6-20-10w, rotary rig; same operator's No. 8 Specht, NW NE SE section 6-20-10w, moving in material; Magnolia Petroleum Co. No. 2 Bayer, SW NW NW section 7-20-10w, rigging up rotary; Sinclair Prairie Oil Co. No. 4 Specht, NE SE SE section 20-20-10w, rotary rig; L. E. Douglass and others No. 1 Patton "A," NE cor. section 7-21-7w, cellar;; same operators' No. 1 Mills, NW cor. section 8-21-7w, location.

Estimated Daily Production

Estimated daily average production in Kansas for the week ending October 24 and the preceding week was as follows:

	Barrels	
	Oct. 24	Oct. 17
Oxford City	3,825	3,850
Hurrton	13,300	13,475
Ritz-Canton	5,775	5,750
Hollow-Nikkel	3,625	3,625
Voshell	2,825	2,825
Ellsworth:		
Lorraine-South Lorraine	6,400	6,825
Other pools	1,577	1,631
Rice-Barton counties:		
Bloomer	1,850	2,350
Chase	9,425	8,450
Genessee	1,525	2,875
Raymond	3,175	2,875
Silica	13,925	13,300
Keesling	2,925	2,400
Hauschild	2,025	1,900
Miscellaneous Rice	4,720	5,076
Miscellaneous Barton	2,338	3,263
Russell County:		
Fairport	2,325	2,063
Gorham-East Gorham	5,920	6,552
Russell	2,305	3,229
Sullivan	2,870	2,430
Other pools	8,605	7,605
Sedgwick County:		
Valley Center	1,280	1,309
Greenwich	1,350	1,371
Robbins	1,145	1,112
Eastborough	820	910
Other pools	355	265
Ellis County	3,910	2,422
Kingman County	560	440
Stafford County	2,323	2,044
Greenwood County	9,700	9,800
Butler County	17,500	17,100
Other fields	28,372	26,318
Total Kansas	168,575	165,400

Barton County

Seven producing oil wells and one water disposal well were completed in Barton County. In the Bloomer area, Texas Co. No. 4 Bloomer, SE NW NE section 36-17-11w, made potential of 2,387 bbls. of oil after acid treatment. It topped Siliceous lime at 3,275 feet, was bottomed at 3,283 feet, and pumped 645 bbls. in 24 hours, down five hours, before acidizing. Skelly Oil Co. No. 2 J. Bloomer, NE SW NE section 36-17-11w, topped Siliceous lime at 3,260½ feet; was bottomed at 1,231 feet, pumped 1,231 bbls. of oil in 11 hours and made potential of 2,750 bbls.

In the Silica district, Texas Co. No. 4 Schmidt,

NE NW NW section 36-19-11w, topped Siliceous lime at 3,286 feet; total depth, 3,293 feet, and made potential of 1,830 bbls. of oil. Mid-Continent Petroleum Corp. No. 9 Matzek, SE NW SE section 25-19-11w, made potential of 1,807 bbls. after acidizing; top of Siliceous lime was 3,292 feet; total depth, 3,301 feet. Sinclair Prairie Oil Co. No. 4 Isern, SE SW SW section 25-19-11w, topped Siliceous lime at 3,281 feet, was bottomed at 3,297 feet; acidized and made potential of 927 bbls.

Empire Oil & Refining Co. No. 2 Rader, NE NW NW section 12-19-11w, was acidized and made potential of 934 bbls. Top of Siliceous lime was 3,334 feet; total depth, 3,357 feet. Shell Petroleum Corp. No. 1 Rader, NE cor. section 11-19-11w, was bottomed at 3,374½ feet, acidized and made potential of 358 bbls. of oil, with 240 bbls. of water. Top of Siliceous lime was 3,327 feet.

Magnolia Petroleum Co. No. 8 M. Steckel, NE SW NW section 1-20-11w, topped Siliceous at 3,334 feet; LaMotte sand, 3,786 feet; and was completed as a water disposal well at 3,796 feet, total depth. It will take 60 bbls. of water per hour.

New work in Barton County was as follows: Republic Oil Co. No. 1 Bloomer, NE SE NW section 36-17-11w, old well, rigging up to deepen; Bradley Oil Co. No. 1 Peoples State Bank, SW SE NE section 29-18-11w, rigging up; Stanolind Oil & Gas Co. No. 1 Brack, SW cor. section 21-18-15w, rotary rig; Empire Oil & Refining Co. No. 3 Rader, SW NW NW section 12-19-11w, building rig; Hilligoss and others No. 7 Isern, SE NE NE section 12-20-11w, location; Gulf Oil Corp. No. 4 Zahorsky, C N half N half SE section 14-20-11w, cellar; Texas Co. No. 1 McGreevy, C SW SE section 30-20-13w, old well, deepened from 3,290 feet to 3,321 feet, but not tested.

Russell County

Braden & McClure No. 1 Herbel, NE NE NW section 35-14-14w, Russell County wildcat, made potential of 220 bbls. of oil and was completed in Gorham sand at 3,165-68 feet, total depth. Top of anhydrite was 745 feet; Oswald lime, 2,918 feet.

Coralena Oil Co. No. 1 L. A. Sellens, NW cor. section 17-15-13w, wildcat, was bottomed at 2,881 feet, plugged back to 2,800 feet to complete, was acidized and made potential of 1,270 bbls. of oil. Top of anhydrite was 740 feet; Topeka lime, 2,620 feet. Same operators also completed another good producing well in the Trapp district, at No. 7 Trapp, NE NE SE section 30-15-13w. It was acidized and made potential of 2,517 bbls. of oil from Siliceous lime at 3,249-53 feet, total depth.

Empire Oil & Refining Co. No. 8 Crawford, NW SE SW section 2-14-15w, topped anhydrite at 913 feet; Topeka, 2,770 feet; Lansing, 3,063 feet; Gorham sand, 3,315 feet; total depth, 3,318 feet. It made potential of 1,889 bbls. of oil. Same operator's No. 8 Johnson, SE SW NE section 2-14-15w, was completed in Gorham sand at 3,316-17 feet, total depth, and made potential of 1,141 bbls. Top of anhydrite was 925 feet; Topeka, 2,765 feet; Oswald, 3,064 feet. Central Petroleum Co. No. 3 Dortland "B," SW SW NW section 4-14-15w, topped anhydrite at 932 feet; had Oswald lime at 3,069-79 feet, total depth; was acidized and made potential of 560 bbls. of oil, with an estimated 40 bbls. of water. Ohio Oil Co. No. 2 J. I. Harbaugh, SE SE NW section 25-14-15w, topped Oswald lime at 2,909 feet, had pay at 2,944 feet and was completed at 2,958 feet, total depth, making potential of 736 bbls. of oil after acid treatment. Coralena Oil Co. No. 3 Boomhower, SW NW NW section 32-15-13w, topped Siliceous lime at 3,271 feet, oil was showing, but it had a bad hole and was abandoned at 3,278 feet, total depth.

Hartman & Blair No. 1 Gurney "A," SE SE NW section 23-14-14w, an old well, was deepened from 3,006 feet to 3,051 feet, made potential of 105 bbls. of oil and was recompleted.

First reports of new work in Russell County: Hartman & Blair No. 1 Boxberger, NE cor. section 26-14-14w, old well, deepened from 3,012 feet to 3,017 feet, but not tested; same operators' No. 1-A Gurney "B," SE cor. section 23-14-14, old well, deepened from 2,978 feet to 3,017 feet, but not tested; same operators' No. 5 Rouback "A," SE SW NW section 2-14-15w, moving in material; same operators' No. 3 Harbaugh, NE SE SW section 25-14-15w, old well, cleaning out, to deepen; Empire Oil & Refining Co. No. 10 Crawford, NE NW SW section 2-14-15w, building rig; same operator's No. 11 Crawford, SE NE SW section 2-14-15w, location; Stanolind Oil & Gas Co. No. 6 Benso, NW NW SW section 4-14-15w, location; Ohio Oil Co. No. 3 Harbaugh, NE SE NW section 25-14-15w, location; W. I. Southern, Inc. No. 1 George Sellens, SE SW SW section 20-15-13w, rotary rig; same operator's No. 1 Boomhower "A," SE SE NE section 30-15-13w, rotary rig; same operator's No. 1 Michaelis, NE NE NW section 31-15-13w, set 10-inch casing at 255 feet; Shell Petroleum Corp. No. 4 Michaelis, NE SW NE section 31-15-13w, set 12-inch casing at 257 feet; Beardmore and others No. 3 Karst, C S half S half NE section 27-15-14w, spudded.

Ellis County

Only one well was completed in Ellis County, Mutual Oil Co. No. 1-A Johnson, NW SW NE section 9-13-19w, had pay at 3,580-85 feet; total depth, 3,600 feet; and made potential of 210 bbls. of oil. It topped anhydrite at 1,437 feet; Dodge, 3,425 feet; Oswald, 3,434 feet; conglomerate, 3,733 feet; Siliceous, 3,750 feet; hole full of water at 3,808 feet; plugged back and cemented 6-inch casing at 3,568 feet, and drilled out to 3,600 feet.

First reports of new work in Ellis County: Margay Oil Co. No. 6 Bemis "A," SE NE SE section 16-11-17w, rotary rig; Phillips Petroleum Co. No. 3 Bemis, C N half S half NE section 21-11-17w, rotary rig; Empire Oil & Refining Co. No. 2 Bemis, SE NE SE section 21-11-17w, location; Ryan Consolidated Co. No. 3 Bemis "A," NE NW NW section 22-11-17w, location; Minnehoma Oil & Gas Co. No. 1 Hallar, NE NE SW section 10-11-18w, moving in material; Beardmore, Palmer and Gulf Oil Corp. No. 7 Weiland, NW NE SE section 36-12-16w, location.

Reno County

Sinclair Prairie Oil Co. No. 5 Matlock, SE NE SW section 3-24-4w, in the Burrton district, Reno County, topped Chat at 3,261 feet; total depth, 3,360 feet. It flowed 255 bbls. of oil in 15 hours before acidizing, and made potential of 641 bbls. of oil, with 113 bbls. of water, after treatment. Same operator's No. 2 Baker, C NW NE section 10-24-4w, produced 10 bbls. of oil and 60 bbls. of water before acidizing, and afterward made potential of 95 bbls. of oil, with 58 bbls. of water and 10,000,000 feet of gas. Chat was topped at 3,280 feet; total depth, 3,363 feet.

Shell Petroleum Corp. No. 4 Hoskinson "A," C SE NE section 9-24-4w, topped Chat at 3,285 feet; was bottomed at 3,386 feet; plugged back to 3,367 feet, was acidized and made potential of 87 bbls. of oil, with 80 bbls. of water and 2,100,000 feet of gas. Ohio Oil Co. No. 2 Priddle, SW SW SE section 17-24-4w, an old well, was deepened from 3,371 feet to 3,393 feet without increase in oil; plugged back to 3,383 feet and pumped 195 bbls. of oil in 24 hours before acidizing. After treatment, it made potential of 71 bbls. of oil, with 375 bbls. of water.

Fred Phillips No. 1 Ray, SW cor. section 7-23-8w, wildcat, topped Chat at 3,703 feet; Viola, 4,005

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FOLLOWS IRREGULARITIES OF WELL BORE AND CASING—See Page 7

feet; Siliceous, 4,098 feet, and was dry and abandoned at 4,163 feet, total depth.

Wilcox Oil & Gas Co. No. 2 Neufeldt, NW SW NW section 12-23-4w, Burrton area, was plugged back from 3,621 feet to 3,389 feet, shot and acidized, made potential of 1,570 bbls. of oil and was recompleted. Barnsdall Oil Co. No. 10 Sabin "C," NE SE SE section 11-23-4w, old well, was plugged back from 3,617 feet to 3,390 feet, shot, produced 12,000,000 feet of gas and was recompleted.

New work in Reno County: Empire Oil & Refining Co. No. 2 Mauck, SW SE NW section 15-26-9w, location; Wilcox Oil & Gas Co. No. 3 Neufeldt, NE SW NW section 12-23-4w, rotary rig; Olson Drilling Co. and Sinclair Prairie Oil Co. No. 5 Adkins, SW NW SW section 35-23-4w, rotary rig; same operators' No. 6 Adkins, NW SW SW section 35-23-4w, location; Magnolia Petroleum Co. No. 3 Harris, SW SW NW section 9-26-4w, location; Stanolind Oil & Gas Co. and Amerada Petroleum Corp. No. 1 Anna Ladd, NW SW SE section 9-26-4w, location.

Ellsworth County

Two new tests were reported in Ellsworth County. James Davis No. 5 Edwards, NW NW SE section 34-17-8w, was rigging up. Empire Oil & Refining Co. and others No. 6 Janssen "B," SW cor. section 34-17-8w, building rig.

Chase County

Polhamus and others No. 1 Leady, SE NE NE section 26-22-9, Chase County, was drilling at 2,200 feet, when first reported.

Stafford County

Empire Oil & Refining Co., Atlantic Refining Co. and John Powell No. 1 Jordon, SW SW NW section 15-25-14w, Stafford County, wildcat, was a rotary rig.

Morton and Stevens Counties

Three new wells were reported in the Hugoton gas field of Morton and Stevens counties. Texas Interstate Pipe Line Co. No. 1 Ningenback, C SE section 4-34-39w, was a location. Stevens Oil & Gas Co. No. 1 Brown, C NW section 27-34-38w, was rigging up rotary. Same operator's No. 1 Finch, C SW section 13-34-38w, was a location.

Sumner County

S. J. Buffington No. 1 Payne, C SW NE section 10-35-2e, Sumner County, produced 1,500,000 feet of gas and was completed at 1,554 feet, total depth. Sand was topped at 1,544 feet.

Stelbar Oil Corp. completed No. 9 Erker, SW cor. section 33-31-1w, in the Wellington pool, at 3,671 feet, total depth, after topping Chat at 3,626 feet. It flowed 100 bbls. of oil in 10 hours; was acidized, and made potential of 1,617 bbls.

Two new operations were reported in Sumner County: Stelbar Oil Corp. No. 11 Erker, NE NE SW section 33-31-1w, was a rotary rig; S. J. Buffington No. 1-A Buffington, C NW SE section 10-35-2e, was a location.

McPherson County

The largest of two producers completed in McPherson County was Continental Oil Co. and others No. 1 J. M. Boechner "A," NW cor. section 28-21-1w. It topped Chat at 2,934 feet; Hunton lime, 3,322 feet; had pay at 3,329 feet and was bottomed at 3,346 feet. After acid treatment, it made potential of 763 bbls. of oil.

Phillips Petroleum Co. and Shell Petroleum Corp. No. 3 Lega, SW SE SE section 30-19-1w, pumped 100 bbls. of oil and 8 bbls. of water in 24 hours before acidizing, and after treatment made potential of 221 bbls. of oil, with 50 per cent basic sediment and water. Top of Chat was 2,929 feet; total depth, 2,977 feet.

New work in McPherson County: W. C. McBride, Inc. No. 6 Whitright, SE NE SW section 30-19-1w, location; Ohio Oil Co. No. 7 Decker, NW NE NE section 20-21-1w, rotary rig.

Woodson County

Three new operations were reported in Woodson County. Dwyer and others No. 1 Wolf, SW NE NE SW section 9-24-14, wildcat, was rigging up machine. B. & B. Oil Co. No. 1-A Corkery, C N half NW NW section 29-25-14, was rigging up machine. C. L. Sheedy and others No. 1 Fagan, NE NE SE section 11-26-14, wildcat, was drilling at 610 feet.

Sedgwick County

Continental Oil Co. No. 3 Goodrich, NE NE SW section 16-25-1e, Sedgwick County, was drilling at 2,440 feet.

Harvey County

Saco and others No. 1 Guthrie, NE NE NW section 8-22-2e, the only new operation in Harvey County, was a rig. It was a wildcat.

Butler County

National Refining Co. No. 14 South Lathrop, C N half N half SW section 17-23-4, in the Elbing area, Butler County, topped Kansas City lime at 1,920 feet; had pay at 2,080-85 feet; total depth, 2,086 feet, and after acidizing made potential of 98 bbls. of oil, with 50 bbls. of water, completed. Empire Oil & Refining Co. No. 15 Lathrop, C S half S half NW section 17-23-4, was bottomed at 2,081 feet and made potential of 300 bbls. of oil, with 52 bbls. of water, completed after acidizing. Top of Kansas City lime was 1,996 feet.

New work in Butler County: Cox & McGinnis No. 1-A Spinden, NE SE SE section 5-23-4, drilling at 1,325 feet; Empire Oil & Refining Co. No. 16 Lathrop, NW SW NW section 17-23-4, location; Polhamus and others No. 4 Semisch, SW NE NE section 5-28-7, drilling at 1,650 feet.

Greenwood County

Marshall and others No. 1-A Steckel, NE NW SE section 36-24-12, Greenwood County, topped Mississippi formation at 1,705 feet; had pay at 1,724 feet; total depth, 1,740 feet; pumped 15 bbls. of oil, but was abandoned. Ward McGinnis No. 2 Prather, NE NE SE section 15-25-11, topped lime at 1,910 feet, had a hole full of water at 1,940 feet, total depth, and was dry and abandoned.

The only new work in Greenwood County was at Lucille Oil Co. No. 6 Teichgraeber, C NW NE section 11-25-8, drilling at 950 feet.

Coffey County

Two producing wells were completed in southern Coffey County. Reynolds and others No. 1 Scott, SW SW NW section 13-23-14, pumped 170 bbls. of oil in 24 hours after acidizing and was completed at 1,627 feet, total depth. Top of Mississippi lime was 1,597 feet. Franklin Drilling Co. No. 5 Rossillion, NE SE SE section 1-23-14, topped Peru sand at 1,147 feet; Mississippi, 1,506 feet; pay, 1,544-48 feet; total depth, 1,549 feet; was acidized and pumped 68 bbls. of oil in 19 hours.

Three new operations were reported in Coffey County: Selby Oil & Gas Co. No. 1 Scott, SW SE NW NW section 13-23-14, was drilling at 130 feet; Henderson Oil Co. No. 2 McCarney, SE cor. section 14-23-14, drilling at 455 feet; Harrigan Brothers No. 1 Wiley, section 14-23-14, location.

Rush County

Morgan & Flynn and others No. 1 Schaffer, NE NE SE section 22-18-16w, Rush County, topped anhydrite at 977 feet; Quartzite, 3,543 feet, plugged back to 3,520 feet; was shot with 200 quarts at 3,515-20 feet, without result, and was dry and abandoned.

Kingman County

The only completion in Kingman County was a wildcat failure. It was W. C. McBride, Inc. No. 2-A Wooldridge, SW NE SE section 16-27-7w, which topped Viola lime at 4,198 feet; had a hole full of water at 4,201-03 feet; and was dry and abandoned in Wilcox sand at 4,226-60 feet, total depth.

Cowley County

New work in Cowley County was as follows: Trees Oil Co. No. 1 Pierson, SW NE NE section 19-30-4, was building rig; Lloyd, Frost & Study No. 2 McKinley "B," NE SE NW section 33-31-3e, was a rotary rig.

Salina County

Ryan Consolidated and Archer No. 1 Norton, NE cor. section 32-14-2w, Salina County wildcat, topped Simpson at 3,412 feet and was dry and abandoned at 3,426 feet, total depth. It had Hunton lime at 3,075-3,198 feet; Viola, 3,265-3,412 feet.

Haskell County

Helmerich & Payne and others No. 1 Larson, C SE section 28-28-33w, Haskell County, drilled to 2,978 feet, total depth; plugged back to 2,771 feet; shot with 70 quarts, produced 3,000,000 feet of gas and was completed.

Yates Field Allowable

AUSTIN, Tex., Oct. 27.—An injunction against enforcement of railroad commission orders covering production in the Yates oil field in Pecos County was sought in a suit filed in federal court here by Ohio Oil Co.

The company alleged total potential of its Yates field wells was in excess of 59 per cent of the entire field but under the commission's proration order its production was less than 46 per cent of the field allowable. The company asks a preliminary injunction against attempts to enforce orders applying to the field, and that the order be made permanent at a final hearing.

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Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ontario, Oct. 24.—Interest in the old Tilbury field in Kent County, Ontario, has been revived by the successful acidizing of Walker & Drake No. 1 in the Valetta section of the field. Location is on the Thomas Moffatt farm, SE quarter, Lot 6, Concession 9, Tilbury East Township. The earlier wells in this area, drilling at the time of the Tilbury oil excitement in 1905-06, finished between 1,200 and 1,300 feet and got a fair production which failed to hold up. The Walker & Drake test, started in July, drilled past these top shows and got a lower sand, with the hole bottoming at 1,432 feet. It got a pumping production around 10 bbls. a day which later petered out.

The well was recently cleaned out and treated with 1,000 gallons of muriatic acid under 1,000 pounds pressure. It was left for two hours and then opened and the pump started. After 15 minutes' pumping it started to flow, making 700 bbls. in the first 42 hours with some water, and over 1,000 bbls. before it was closed in to change the connections. There were no facilities to handle the unexpected flow, but a sump was contrived till wooden tanks could be moved in. Later the flow stopped, and pumping was resumed, the well making around 75 bbls. a day with some water.

Oil men from various parts of Ontario and Michigan visited the field over the week-end and there has been extensive leasing in the adjacent area. The Tilbury field some 30 years ago was a large producer from the Salina and Guelph-Niagara formations around 1,300 feet, but no production has been recorded for some years. It is likely that a number of the old wells will be cleaned out and acidized; and new wells drilled. The oil is of good quality, similar to Petrolia crude. This is the first time acidizing has been attempted in the Tilbury field, though a couple of years ago indifferent results were secured from the same treatment of old shallow wells in the Petrolia-Enniskillen area.

George Willets & Son of Bothwell who drilled Walker & Drake No. 1 are moving the outfit to the Armstrong farm, Lot 5, Concession 9, immediately east, where No. 2 will be drilled. Stover & Rawlings of Chatham are starting a test on the Archie Campbell farm, Lot 5, Concession 8, for a Detroit syndicate.

Farther east in Kent County, F. W. Burchell and associates No. 2, SE quarter, Lot 12, Concession 14, Raleigh Township, is below 700 feet. Location is about 1½ miles north of Ouvry.

Ontario Drilling

In Chatham Township, Kent County, Ontario, Ogletree Syndicate No. 2. Lot 13, Concession 5, is shut down at 1,100 feet.

Union Gas Co. No. 5, NE cor. SE quarter, Lot 8, Concession 12, Chatham Township, is below 1,100 feet.

In the Dawn field, Lambton County, Union Gas Co. No. 84, Lot 25, Concession 2, Dawn Township, is below 2,000 feet and looks like a dry hole. Union No. 85, same lot, is below 1,400 feet. Union No. 86, in SE quarter, Lot 30, Concession 5, Sombra Township, west of the proven field, is spudding.

In Chatham Gore, Kent County, Fred H. Merritt No. 1, Lot A, Concession 2, was a dry hole at 620 feet. A second test is being started about a mile from No. 1.

In Enniskillen Township, Lambton County, P. D. Bornman & Co. No. 1, SW quarter, Lot 29, Concession 9, is below 1,000 feet.

In the Eden field, Elgin County, Ontario, Stover & Rawlings of Chatham are starting a test for Olga Gas, Ltd., of Toronto on the J. M. Jackson farm, Lot 5, Concession 5, Bayham Township. Contracts call for a series of four tests which will be drilled to the Clinton sand. R. L. Pattinson and associates of Chatham have moved a rig from the Dover field, Kent County, to the S. Williams farm, Lot 133, Concession 8, Bayham Township, for a test. E. P. Rowe has cleaned out and shot No. 1 Stillwell, in the same field, bringing back the flow to around 500,000 feet a day. Dave Lauer, of Tillsonburg, handled the contract.

In the Brownsville field, Oxford County, Armand Smith No. 2, Lot 22, Concession 11, Dereham Township, finished a dry hole below 900 feet. Location was north and east of the Treleaven gassers in Lot 23, Concession 11. Adams & McNevin No. 1 Sprague, E quarter Lot 23, Concession 11, is fishing at 475 feet. Aylmer Gas Syndicate No. 2, SE Lot 23, Concession 12, finished at 948 feet with initial flow of 802,786 feet a day. Aylmer No. 3 is starting in the same lot. Aloka Oil & Gas Co. No. 6, N half Lot 23, Concession 12, finished below 900 feet with initial flow around 500,000 feet a day.

South and west of the proven field, Perdue Syndicate No. 1, S half Lot 26, Concession 9, Malahide Township, Elgin County, finished a dry hole after drilling to 994 feet.

In Norfolk County, Domestic Natural Gas Co. No. 2 in Woodhouse Township, east of Port Dover, finished with initial production between 300,000 and 400,000 feet a day. The same company has finished test for shallow oil in the Bothwell field, Kent County, with a fair pumping production.

In Amabel Township, Bruce Coun-

(Continued on Page 106)

SEVENTEENTH ANNUAL MEETING
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North Louisiana, Arkansas

WOODBINE DISCOVERY MADE IN THE IRMA FIELD, ARKANSAS

By MITCHELL TUCKER

SHREVEPORT, La., Oct. 26.—New interest is shown in known structures of northern Louisiana as operators have been provided with the Pettitt sand, recently found productive of oil at Sligo, as an additional possible source-bed in the Middle Trinity series. This marks the second major addition (the other being the Travis Peak at Cotton Valley) of new source-beds in this territory following the time when Lower Glen Rose formations were made prominent by the Rodessa discovery. The attractiveness of gas-distillate fields now in the Glen Rose was greatly increased following the Sligo discovery.

Southern Arkansas provided this territory with a new discovery for the week when testing of the flank well of the old Irma field, Nevada County, definitely indicated that a new pool or an extension of the old one, had been made.

Benedum-Trees Oil Co. No. 1 Groves Land & Timber Co., C N half SE NW section 10-14-20, about 3 miles southeast of production in the Irma field, is the discovery well. Hole was cored from 2,184 to 2,187 feet and a highly saturated and porous sand was recovered (Woodbine or basal Upper Cretaceous). A 1,500-foot column of oil rose in the hole at this depth. Second core from 2,187 to 2,190 feet showed the same saturation and porosity, and from this point the well flowed 250 bbls. of clean 22.9 gravity oil in 12 hours. Operators are now reaming to set 8-inch casing at about 2,175 feet, above the point of first saturation.

Acreage surrounding this test is held almost solid by Benedum-Trees Oil Co., and an active drilling campaign is expected to follow the successful completion of the well.

Production is being obtained from a deeper formation than that of the Irma field, which has produced a heavy asphalt oil, gravity about 15 degrees, for many years.

Rodessa

With a daily per well allowable of 225 bbls., Rodessa wells were capable of flowing only an average of 186 bbls. during the past week, the Louisiana wells yielding 179 bbls. daily, with the Texas wells flowing 215 bbls. daily.

Distribution of producing wells and daily average production for the week ending October 20 at Rodessa, by companies, was as follows:

Company—	No. wells	Daily prod.
American-Liberty Oil Co.	11	2,379
Arkansas-La. Gas Co.	26	4,433
Magnolia Petroleum Co.	50	10,324
Tide Water	15	2,077
Phillips Petroleum Co.	21	4,522
Standard Oil Co. of La.	53	9,758
United Gas Public Service	125	24,083
Others	78	12,994
Total	379	70,570

Daily average pipe line runs from the field for the same week were as follows: Standard Oil of Louisiana, 22,708 bbls.; Arkansas-Louisiana Gas Co., 4,429 bbls.; United Gas, 2,454 bbls.; Gulf Refining Co., 12,264 bbls.; Shoreline Oil Co., 1,400 bbls.; Magnolia Petroleum Co., 17,206 bbls.; Texas Co., 4,740 bbls.

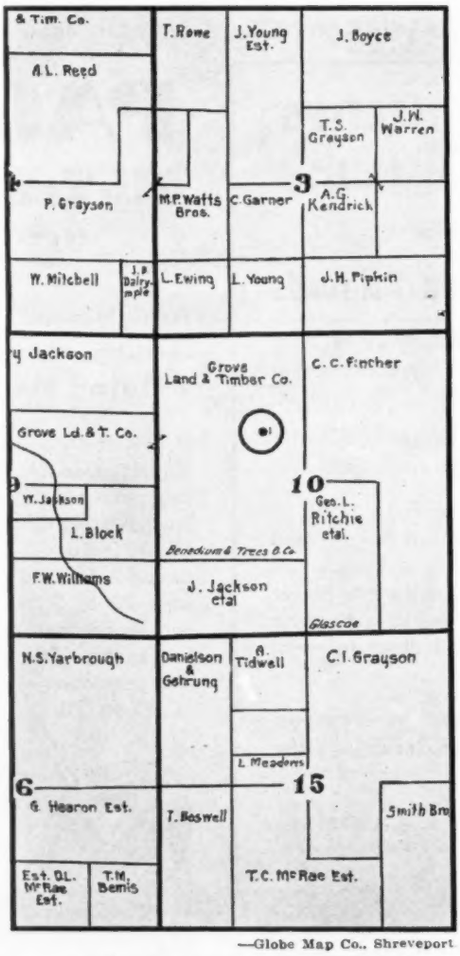
Gas-Oil Ratio

The Rodessa Operators Committee are awaiting the call from state officials for the next hearing on gas-oil ratios and other conservation matters pertaining to the field. The temporary order placing oil wells on a 12,500 to 1 ratio, and gas-distillate wells on a 25,000 to 1 ratio, still remains in effect. Due largely to structural position, the Rodessa wells in Cass County, Texas, have a much smaller gas-oil ratio. The Texas Railroad Commission agents just completed a survey of 66 wells in that portion of the field, and they reported the highest ratio at 1,274 to 1, the lowest 309 to 1, and the average 654 cubic feet to 1. Tests on both sides of the field indicate that the rapid decline of bottom-hole pressures has been partially checked by the application of the restrictive order now in force. Louisiana Department of Conservation has placed two additional engineers in the field to make bottom-hole pressure measurements.

The foremost eastern extension test, Idessa Oil Co. No. 1 Summer, NW SW SE section 10-23-15, has been deprived of an early test when the crew had a fishing job at 5,790 feet. The crew continues to fish for drill stem.

Standard Oil Co. of Louisiana has staked location for No. 1 Farmer, SW NW SW section 7-23-15, a northern flank test near the eastern end of the field, just 1¼ miles from the Arkansas state line.

Rodessa's most important extensioner, Ray Oil Co.'s No. 1 Parker, SE corner G. Crowder Survey, located 660 feet from the Louisiana line and about 2 miles north of present production, is now coring below 6,000 feet and should be nearing important markers. This test is often referred to as the "lateral fault test," being drilled upon the presumption that the northern flank of the present field is featured by another parallel fault plane in the vicinity of the Parker test.



—Globe Map Co., Shreveport

Benedum-Trees Oil Co. discovery about 3 miles southeast of production in the old Irma field of Nevada County, Arkansas

Rodessa Completions

American Liberty Oil Co. No. 3 Norton, NE cor. section 17-23-15, flowed 16 bbls. per hour through one-quarter inch tubing choke, tubing pressure 500 pounds, casing pressure 250 pounds, saturation topped at 6,000 feet, total depth 6,027 feet.

Louisiana Oil & Refining Co. No. 3 Ratcliff, NW cor. section 16-23-15, flowed 77 bbls. per hour through one-half inch tubing choke, tubing pressure 600 pounds, casing pressure 360 pounds, saturation topped 6,015 feet, total depth 6,060 feet.

McAlester Fuel Co. No. 1 W. M. Mitchell, SW cor. section 20-23-16, flowed 18 bbls. per hour through three-eighths inch tubing choke, casing pressure 410 pounds, saturation topped 5,984 feet, total depth 6,025 feet.

United Gas No. 3 fee 574, NE SE section 16-23-16, flowed 20 bbls. through three-eighths inch tubing choke, tubing pressure 175 pounds, casing pressure 250 pounds, saturation topped at 5,978 feet, total depth 5,990 feet.

United Gas No. 6 N. S. Spearman, NW cor. section 18-23-15, flowed 34 bbls. per hour through three-eighths inch tubing choke, casing pressure 250 pounds, tubing pressure 350 pounds, saturation 6,003 feet, total depth 6,030 ft.

Magnolia Petroleum Co. No. 4 J. E. George, SE cor. John Collum Survey, Cass County, Texas, failed to find oil saturation sufficiently high to make an oil producer and was completed as a gas well, gauging 3,300,000 feet, tubing pressure 1,700 pounds, casing pressure 2,080 pounds, total depth 6,045 feet.

Phillips Petroleum Co. No. 2 T. H. and Sallie Stallcup, Robert Trammel Survey, flowed 16 bbls. per hour through one-quarter inch tubing choke, tubing pressure 1,765 pounds, casing pressure 2,100 pounds, saturation 6,011 feet, total depth 6,030 feet.

United Gas Co. No. 1-A J. T. Wall, Alex Archer Survey, flowed 49 bbls. per hour through one-half inch tubing choke, tubing pressure 625 pounds, casing pressure 125 pounds, saturation topped at 6,057 feet, total depth 6,090 feet.

Bienville Parish

Once promising possibilities of being a field opener, the deep Gibsland test is being abandoned after thorough testing. J. W. Leonard No. 1 Courtney heirs, SE cor. section 5-17-7w, recorded slight showings of heavy oil at 7,181-82 feet in lime. Seven-inch pipe was cemented at 7,286 feet and drilling and testing resumed at 7,324 feet. Casing was perforated from 7,175 to 7,190 feet opposite previous showings, and a 3,000-gallon acid charge was used without success. Perforating was continued up the hole, shooting at 6,070-75, 6,047-53, 5,973-78, 5,900-05, 5,845-55, 5,800-10 and 5,672-82 feet, testing all possible indications of sands through the Travis Peak. Operators have announced intentions to abandon the test at its present depth.

Bossier Parish

The discovery well at Sligo continues to test its potential flow on various size chokes. United Gas No. 1 F-1 H. L. Skannall, NE cor. section 26-

17-12, which discovered oil on the southwest flank of the Sligo gas area, flowed 127 bbls. in 16 hours through one-quarter inch tubing choke, tubing pressure 75 pounds, casing pressure 900 pounds, with 500,000 feet of gas, gravity of oil 40.2. It is thought that the well has not completely cleaned itself as yet. Recognizing the possibility that the extent of oil production here will be limited to a thin portion on the southern flank, North Louisiana oil men contend that the true significance of the Sligo discovery is in providing one additional possible source bed in the Trinity series as a drilling objective.

Premier Investment Co. made a routine completion in the Bellevue pool, No. 34 Wyche, section 14-19-11, pumping 30 bbls. daily, total depth 420 feet, Nacatoch sand.

Caddo Parish

Determined to make a complete test of its extensive Cross Lake holdings, Gulf Refining Co. continues to drill No. 1 E. P. Hatcher, SW SE section 11-17-15, below 6,650 feet in the Travis Peak, without encountering attractive showings.

Maja Oil Co. No. 1 Mathews, NE SE section 10-20-15, routine completion in Caddo field, pumped 65 bbls. daily on initial test, total depth 2,204 feet.

Prairie River Syndicate No. 1 Hutchinson, SW NW section 15-15-12, continues to make geological history as it drills in the marine Travis Peak below 7,225 feet. Hard colored sands and limes are persistent.

Stanolind Oil & Gas Co. No. 110 Dillon, NE cor. section 14-21-15, pumped 5 bbls. daily after acidizing, total depth 1,674 feet, as a completion in the eastern portion of the Caddo field.

Claiborne Parish

E. T. Oakes is moving in pipe to case the important Sugar Creek field test, No. 1 H. W. Patton, NE cor. section 1-20-5, while shut down at 5,067 feet in lime and shale. Gas showings were reported at 5,044-60 feet.

Morehouse-Union Parishes

Three routine completions were made in the Monroe gas field during the week, gauging a total flow of 35,000,000 feet from the chalk rock, average rock pressure 800 pounds.

Red River Parish

W. J. Hunter's highly regarded test, No. 1 Long Bell Lumber Co., section 19-13-9, 3 miles northeast of the Bull Bayou field on the western flank of the Sabine Uplift, continues to share the interest. Coring from 3,706 to 3,709 feet showed good odor and taste of oil; lime was cored from 3,719-23 feet, and shale from 3,734 feet. Formation is though to be basal Upper Cretaceous, or possibly the Woodbine. Operators are preparing to case the well and test, total depth 3,734 feet.

Sabine Parish

Cox & Whitehurst No. 1 Whitney Corp., section 8-9-13, Glen Rose test of the old Converse field, has been standing for cement to set around short string of 7-inch pipe run to shut off break around the 9-inch. Operations are to be resumed here soon. At a total depth of 5,503 feet in the Oolitic limestone this well flowed wild a few weeks ago, giving indications of a new field opener in the deeper horizon. Recent tests of the distillate oil produced showed it to be of a definite paraffin base, 49.6 gravity, thereby marking it as Trinity oil, disproving the theory that the oil was coming from upper formations.

J. J. Watson No. 2 Reneau, NE SE SW section 29-9-13, pumped 15 bbls. per day initially from a depth of 1,981 feet, for a completion in the Converse field.

J. R. Keen No. 1 Long Bell Mining Corp., SE NE SW section 5-8-13, formerly reported as abandoned in error, has been acidized and is reported to be standing with about 1,200 feet of oil in the hole. Standard pumping rig is being erected for an early test. This well is about a 2-mile extension to the south from the old Converse field.

Webster Parish

The Holloway sand of the Travis Peak, found productive in Cotton Valley's recent deep discovery, has been entirely missed or found unsaturated in nearby wells now testing. The true significance of the deep Cotton Valley discovery is again questioned.

Ohio Oil Co. No. 1 Bodcaw Account 4, NE SE of section 28-21-10, cored the entire section but failed to record the same saturation as found in the discovery well, their No. 6 Holloway about 2 miles northeast. At a total depth of 5,720 feet 10-inch casing is now being run, preparatory to carrying this well to the 10,000-foot level originally proposed.

United Gas No. 2 J. M. Mixon, SW cor. section 22-21-10, took drill-stem test from 5,578 to 5,666 feet, and 11 joints of mud and small oil shows were indicated in 20 minutes. Second test at 5,620-66 feet, one-half open top and bottom for 30 minutes, indicated 1,500,000 feet gas, 13 joints oil and mud. From 5,644 to 5,645½ feet, or for 1½ feet, a saturated sand was cored, which some have correlated with the Holloway. This well, situated about 1 mile southeast of the discovery well, and midway between that and Ohio No. 1 Bodcaw, which missed the sand entirely, indicated a thinning out of the formation in that direction.

Woodley Petroleum Co. No. 4-B Gray, C NE NE section 28-21-10, was unsuccessful in fishing for lost drill pipe at 4,835 feet, and the hole has been temporarily abandoned at a depth of 4,875 feet.

ARKANSAS

Calhoun County

In or near Township 14s, Ranges 12 and 13w, Phillips Petroleum Co. continues to substantially add to its holdings while assembling a large block in this vicinity, presumably for immediate drilling.

Columbia County

F. W. Burford and others No. 1 Kendrick, NW SE section 7-19-18, closely watched test of this area, is drilling in the Travis Peak below 4,900 feet without important showings.

Hempstead County

Root Petroleum Co. has assembled about a 7,000-acre block centering in sections 22 and 28, Township 13s, Range 23w, in Hempstead and Nevada counties, for which they paid from $2 to $6 an acre, and have agreed to begin a 4,500-foot test on or before November 30. Their seismograph crew has thoroughly mapped this area, and the block is reported to be on a pronounced geophysical high with large closure on the anhydrite.

Imperial Oil & Gas Products Co. No. 1 Foster, section 35-12-26, provided new geological data for this territory when it drilled the hard conglomerate section 3,091 feet to 3,121 feet, then some volcanic ash, and then drilled into the red beds of the Travis Peak, continuing below 3,200 feet. This conglomerate section has heretofore been thought to be the base of the Travis Peak, or igneous rock.

Miller County

McClanahan and others No. 1 Miller Land & Lumber Co., SW cor. section 2-18s-28w, in the extreme southwest corner of the state, and a few miles due north of Rodessa, has been plugged and abandoned at a depth of 6,288 feet in hard gummy lime (Lower Glen Rose), lacking both saturation and porosity.

EAST TEXAS (Border Counties)

Panola County

A. C. Glassell No. 1 Frost Lumber Industries, new gas-distillate discovery south of Carthage, Tex., gauged 3,000,000 feet of gas through one-quarter inch positive tubing choke, making from 2 to 3 bbls. of high-gravity distillate per hour, total depth 6,002 feet in Lower Glen Rose.

Gulf Refining Co. No. 1 Pierce and Chesbro, J. H. Shana, failed to find indications of saturation in the Lower Glen Rose, total depth 5,455 feet, and has been plugged and abandoned.

Lawler Petroleum Co. began clearing location this week for a test of their 7,000-acre block surrounding the Elysian Fields area, to be located in the northwest corner of the 350-acre tract of Bucknell land in the Bailey Anderson Survey. The well is a proposed 6,000-foot test.

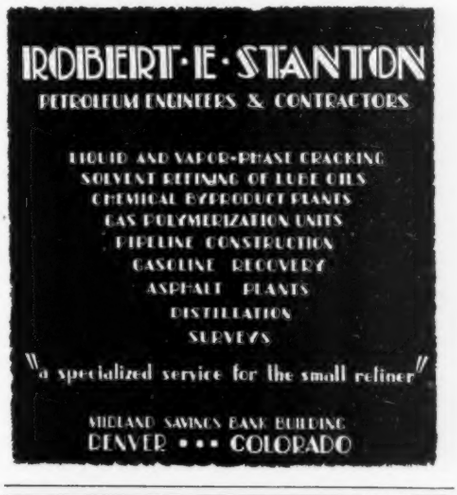
The White-Goodwin Syndicate of Philadelphia have staked location for their No. 1 Hill in the Winnie Mann Survey, on their 4,500-acre block, about 3 miles due north of Glassell's recent gas-distillate discovery. The 6,000-foot level is to be tested here.

Skelly Oil Co. continues to add to their holdings about 4 miles southwest of Carthage, where it is reported they recently mapped an attractive geophysical structure.

Shelby County

Three geophysical crews remain active in the northeast portion of this county: Texas Co. near

(Continued on Page 97)



GIVES YOU MORE TIME TO GET IT DOWN—See Page 7

Texas and Louisiana Gulf

By
F. L. SINGLETON

SOUR LAKE AND CLAY CREEK FLANKS FAIL TO MAKE GOOD

HOUSTON, Tex., Oct. 26.—Prospects of opening flank production in the Clay Creek field in Washington County and in the old Sour Lake field in Hardin County, were given a set back the past week when salt water showed up in two wells that had previously shown production possibilities. Other developments along the Gulf Coast included the abandonment of the Bammel test in Harris County and the favorable showing encountered in a well located on the Seabreeze Prospect in Chambers County.

Sun Oil Co. No. 1 Lauter located on the southeast flank of the Clay Creek field, Washington County, was cored 3 feet deeper to 7,474 feet and after screen and liner was set, the hole was swabbed down to 3,700 feet where it began to show salt water with some oil and gas. It is possible that the hole cored too deep and another test may be made at a higher level, although at the present time the well is shutdown waiting on orders.

This well had encountered considerable gas pressure in the Lower Wilcox horizon, several thousand feet deeper than the field's three main producing sands, and has attracted much attention as it will create an extensive trend play through the northern tier of counties, should it make a commercial producer at its present depth.

The favorable showings encountered in this well have apparently been instrumental in the company taking over the operations of a flank test in the Kittrell field in Houston County, drilled to 5,500 feet by Boone Brothers. The well has been shutdown for several weeks and will be deepened to the Lower Wilcox sand.

At the old Sour Lake field, Hardin County, Woodley Petroleum Co. and Kirby Petroleum Co. No. 1 Merchant, located a half mile from production on the southwest flank of the dome is preparing to make a squeeze-out cement job through perforated casing from 4,531-43 feet, where it tested salt water with some oil and gas. A good section of sand showing oil was cored from 4,531-71 feet and it is the opinion of the operators that the casing was perforated too high and another test is scheduled to be made during the week.

Interesting Wildcats

Two of the most interesting wildcat tests in the district, are on the Seabreeze Prospect in Chambers County and are being drilled simultaneously by Sun Oil Co. Both are bottomed below 8,300 feet and are shutdown awaiting orders after electrical coring tests were made. No. 1 Acom located in the H.T.&B. Survey cored broken sand, sandy shale and shale with a gas odor from 8,111-8,315 feet, the total depth. An electrical coring test is reported to have shown good resistivity. Approximately 3 miles to the southwest No. 2 White in the J. T. White Survey is bottomed in sand and shale at 8,625 feet. The results of an electrical coring test had not been made.

Glenn H. McCarthy is rigging up for an interesting outpost test for the Cotton Lake field in Chambers County. It is No. 1 Kirby Petroleum Co. located 150 feet from the east line and 1,399 feet from the south line of a 98.4-acre tract about a mile north of production in the Chambers County School Land Survey. While this test was being rigged up, Humble Oil & Refining Co. and others No. 1 Howard located 932 feet south of the discovery well cored 4 feet of sand showing oil and gas at 6,280-85 feet, 3 feet of oil sand was recovered at 6,290-94 feet and another 3 feet was recovered at 6,229-6,311 feet, the total depth. Seven-inch casing was cemented at 6,309 feet.

West Beaumont Prospect

The west Beaumont field in Jefferson County was in the limelight again as a result of the showing of Normandie Oil Corp. No. 1 Prutzman located several thousand feet southeast of the McCarthy production in the H. Williams Survey. The hole is bottomed at 6,927 feet and a string of 5½-inch casing is being run preparatory to testing, following the favorable showings made on an electrical coring test. Sand showing 40 millivolts porosity and 2½ ohms resistance was recorded at 5,928-33 feet, shale at 5,933-35 feet and sand at 5,935-40 feet that showed 75 millivolts porosity and 3½ ohms resistance. Six side wall cores taken at 5,928-35 feet showed oil sand. The well is located almost midway between the Amelia field and the West Beaumont area which are looked upon as two separate fields.

Offsetting McCarthy's No. 2-A Long, Stanolind Oil & Gas Co. made location for No. 1 Sargl in the H. Williams Survey. Stanolind holds considerable acreage in fee, acquired when the company purchased the holdings of the Yount-Lee Oil Co.

Another 9,100-foot producer has been added to the Dickinson field, Galveston County, by the completion of Humble Oil & Refining Co. No. 1 Maley which flowed 27 bbls. per hour through a quarter-inch choke from a depth of 9,110 feet. Seven-inch casing was cemented at 9,101 feet. Location is in the northeast part of the field in Amos Edwards Survey. To the northwest in the Amos Edwards Survey, Kenco Oil Co. No. 2 Broughton was tested through perforated casing from 8,075-64 feet and flowed 19 bbls. in 4 hours through a quarter-inch choke with tubing and casing pressure 2,300 pounds. Gravity of the oil tested 46 degrees.

Passes 10,000 Feet

To the southeast on the Hitchcock Prospect, Shell Petroleum Corp. has drilled the first 10,000-foot test for the Texas Gulf Coast when No. 1 Maco Stewart in the J. Spillman Survey reached 10,005 feet and was drilling ahead. It is very probable that it will be carried much deeper. Several electrical coring tests have been made to 9,000 feet and another is expected to be made before the hole is drilled much deeper.

In the Garwood area, southern Colorado County, Sterling Oil & Refining Co. No. 1 South topped sand showing oil at 6,167 feet and is bottomed at 6,189 feet with 5½-inch casing cemented at 6,187 feet. Several drill-stem tests were attempted but all failed due to the seat failing to hold. Location is in section 41, I.&G.N. Survey.

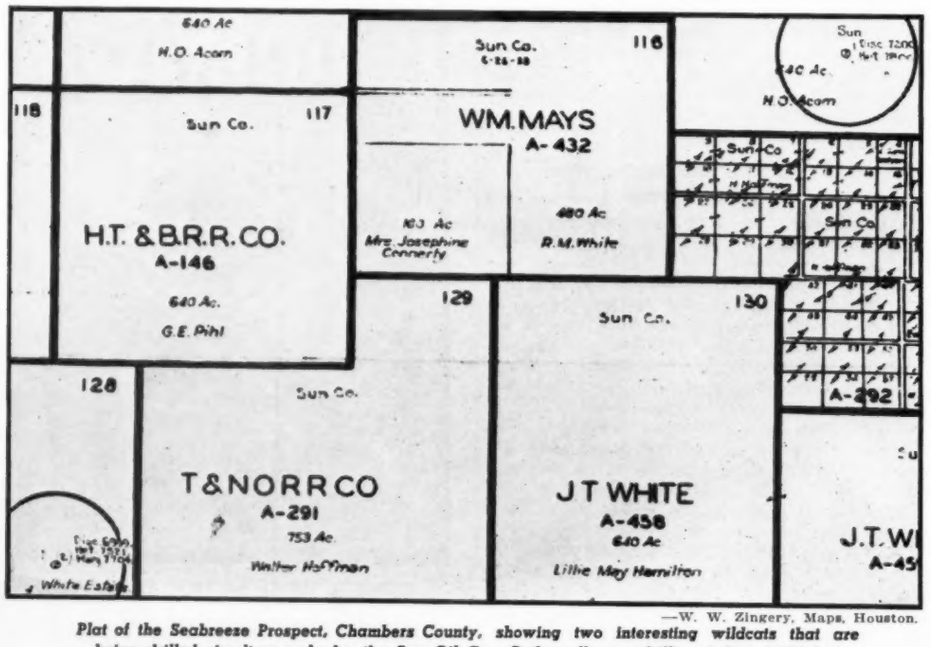
Failure on Bammel Prospect

Bunte Oil & Gas Co. No. 1 N. M. Graves, located on the Bammel Prospect, Harris County, in the C. Walters Survey, has been abandoned in the Cockfield sand at 6,505 feet after it tested 17 thribbles of salt water on a drill-stem test from 6,400-32 feet. The test is bottomed in a sidetracked hole which was redrilled from 310 feet after the operators were unable to clean up a fishing job which occurred while the operators were attempting a drill-stem test in the original hole bottomed at 6,428 feet.

On the Cedar Lake Prospect, Matagorda County, Strake Petroleum Corp. is clearing location for No. 1 G. T. Sargent, 466 feet from the west bank of the lake in the L. E. Parker Survey. In the Tone and Jameson Survey, Jack Frazier is moving in a rig to deepen John Deering's No. 1 R. A. Estill which was abandoned several months ago at a depth of 6,868 feet. Across the line in Wharton County, Texas Crusader Oil Co. was pulling screen from No. 1 H. C. Cockburn and will reperforate and test at a higher level. The hole was washed with oil and after it was swabbed dry it showed some oil and salt water.

In the Heyser Field

Portilla Oil Co. No. 1 Welder, located in the Heyser field, Calhoun County, has cemented 7-inch



—W. W. Zingery, Maps, Houston.

Plat of the Seabreeze Prospect, Chambers County, showing two interesting wildcats that are being drilled simultaneously by the Sun Oil Co. Both wells are drilling below 8,300 feet

casing in sand bottomed at 5,486 feet after a 16-minute drill-stem test showed 4,300 feet of pipe line oil through a quarter-inch choke. It is a north offset to Humble Oil & Refining Co. No. 4-A Welder and it is expected to be completed for the largest producer in the field. Humble Oil & Refining Co. is testing two wells and has made location for No. 5 P. H. Welder in the J. Rios Survey. No. 3-A Welder is waiting on cement to set at 5,490 feet and No. 3-B Welder has been completed for a gas well at a plugged-back depth of 5,455 feet, but no gauge has been reported.

On the Lockridge Prospect, Brazoria County, Gulf Oil Corp.'s No. 2 Wilkes and Smith, located in the John W. Hall Survey, topped gas sand at 6,258 feet and is bottomed at 6,269 feet, where a drill-stem test was to be made.

SOUTH LOUISIANA

Texas Co. No. 5 Rigolettes Fur Co., located 1,800 feet south of production at the Lafitte field in Jefferson Parish, continues to be the most outstanding development in the Louisiana Gulf Coast, as preparations were being made to run a protection string of 7-inch casing to 10,942 feet. the total depth. An electrical coring test showed 10 ohms resistance and 40 millivolts porosity from 10,082-96 feet, which is the deepest show recorded, and the operators plan to run the casing and drill deeper before plugging back to test the above showing through perforated casing. The favorable showing recorded by the survey encourages the possibility of this well opening the first commercial production from the 10,000-foot horizon.

Two miles west of the discovery well of the Charenton field, St. Mary Parish, Mike Hogg and others No. 1 State, located in the center of Bayou Teche, is drilling in shale below 7,123 feet with no shows being reported. The discovery well is producing from sand topped at 7,200 feet, and No. 1 State should encounter the sand during the week. Offsetting the discovery well, the same operators are rigging up for No. 2 Laws Realty Co., which is located 990 feet north and 660 feet east of the SW cor. of section 30-13s-10e.

In the Tepetate field, Acadia Parish, Continental Oil Co. is preparing to test No. 1 Stoddard, bottomed in sand at 8,317 feet. Oil sand was topped at 8,310 feet and 5¾-inch casing was cemented on bottom. Location is in section 28-9s-8w.

General Crude Oil Co. No. 1 P. Buhler, located in the SE of section 30-8s-9w, has been abandoned in heaving shale at a depth of 8,481 feet. The only showing recorded was from 7,375-78 feet, but apparently it was not good enough to test. In the SW cor. of section 20-10s-7w, J. Elmer Thomas No. 1 Farmers Land Co. attempted a drill-stem test from 3,677-88 feet, but the test failed and the hole has been abandoned at 3,911 feet.

Progress on the district's two deepest wildcats is being retarded as the operators are planning to sidetrack and redrill new holes, due to fishing jobs that were unable to be cleaned up. On the South Jennings Prospect, Jefferson Davis Parish, Stanolind Oil & Gas Co.'s No. 1 Calcasieu National Bank stuck the drill stem in a sidetracked hole and has plugged back to 8,785 feet and is waiting on cement to set. On the Abbeville Prospect, Vermilion Parish, Continental Oil Co. No. 1 O. C. Hebert is milling out of casing to sidetrack at 10,830 feet. The bottom of the original hole was 11,732 feet, where the drill stem became stuck when 5 feet of gas sand was encountered from 11,727-32 feet.

West Texas Fields

(Continued from Page 88)

C. P. Clayton, 2,918-2,987 feet, 550 bbls. George B. Ray No. 3 Hester, 2,890-3,000 feet, 35 bbls. H. W. Rose No. 2 Moore, 501 feet, dry.

Wichita County

A. E. Blair No. 5 C. A. Mertens, 811 feet, dry. Culbertson Co. No. 78 Waggoner, 378 feet, dry. J. E. Keller No. 1 Waggoner, 561-70 feet, 32 bbls. Maro Co., Inc., No. 4 C. H. Whittenbach, 1,917-25 feet, 30 bbls. W. B. Omohundro No. 3 S. P. Gibson B, 1,885-94 feet, 25 bbls. Perkins & Cullum No. 20 Burnett and others, 1,375 feet, dry. Pois & Schultz No. 1 Foster B, 1,254-60 feet, 141 bbls.; No. 1 Foster A, 1,200-75 feet, 110 bbls. A. T. Wolfe No. 11 E. Daume, 658 feet, dry.

Young County

W. E. Bernhart No. 1 L. L. Anderson, 507 feet, dry. Bohner & Gilmore No. 1 Prideaux Brothers, 566-72 feet, 100 bbls. Clark & Stilley No. 6 M. M. Burris, 711 feet, dry. W. F. Collins No. 3 Self, 670 feet, dry. Estacado Oil Co. No. 1 Morrison, 944 feet, dry. R. L. Hayes No. 2 L. Drum, 627 feet, dry. Helmerich & Payne, Inc., No. 1 M. K. Graham, 3,635-60 feet, 275 bbls. Kimmell Lea & Co. No. 1 Prideaux, 678 feet, dry. L. A. Long No. 2 Seddon, 3,930-40 feet, 400 bbls. Panhandle Refining Co. No. 6 Prideaux, 711-29 feet, 10 bbls. R. G. Piper and others No. 1 S. L. Scott, 748-53 feet, 15 bbls. E. R. Riggs No. 14 Kirkland, 712-30 feet, 10 bbls. Sams & Meyers No. 3 I. E. Self, 707-65 feet, 10 bbls. Swink and others No. 1 Logan, 550-75 feet, 21 bbls. Tuel and others No. 1 Belknap, 670 feet, dry. Underwood Drilling Co. No. 3 R. Campbell, 887-900 feet, 30 bbls. West & Honea No. 4 Graham Stewart, 830-45 feet, 25 bbls.; No. 5 Graham Stewart, 834-55 feet, 35 bbls.

Louisiana-Arkansas Fields

(Continued from Page 95)

Center, Sun north of Shelbyville and Sinclair Prairie south of Joaquin. Leasing continues in this vicinity and attempts are being made on several hands to finance Glen Rose tests here.

MISSISSIPPI

In Hinds County, Jackson gas field, State of Mississippi No. 3 fee, section 25-6n-1e, recently completed as a gas well, has been tied into United Gas System's line. Mississippi No. 4 fee, section 35-6n-1e, has just been completed, gauging 12,500,000 feet in the chalk, 2,503 to 2,509 feet. No. 5 fee, section 25-6n-1e, is now drilling at about 1,000 feet.

ALABAMA

Location has been made for Grand Bayou Oil & Gas Co. No. 1 J. A. Stafford, SW SW section 27-7s-3w, Mobile County. Plans are to start this deep test within the next 60 days.

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✓ LOWERS POWER CONSUMPTION

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✓ REDUCES ROD STRESS

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East and East Central Texas

By
L. E. BREDBERG

DEEP TRINITY TEST STARTS NEAR ALBA, RAINS COUNTY

DALLAS, Tex., Oct. 26.—Of prime importance in the East Texas district this week was the staking of location for a 7,500-foot Trinity sand test by the Humble Oil & Refining Co. and Tide Water Oil Co. on the Ira Lee Johnson Easter lands, R. Hotchkiss Survey, 5 miles northwest of Alba in Rains County. The companies are now moving in a rotary rig for the deep test, which is located on a block assembled by the Rio Oil Co., and which Humble recently purchased for a reported price of $100,000 in cash. The block extends east into Wood County, covers some 2,500 acres and is located about 4½ miles east of the town of Emory. The faulted structure is not located on the Mexia-Talco Fault zone, being located far east of that, but production will be sought in the Paluxy, the pay member of the Trinity which produces in the Sulphur Bluff pool in Hopkins and the Talco pool in Franklin and Titus counties. If it misses production from that member of the Trinity, it will be carried to the Glen Rose member, consequently will be one of the most interesting tests in the district. The block was proven dry in the Woodbine sand section at 4,353 feet a couple of years ago.

Henderson Test

The Cosden Oil Corp. of Fort Worth is planning on sinking a 5,300-foot test on its Frankston block of some 6,000 acres in eastern Henderson County, and has staked location on lands of Mrs. A. Miller, in the Thomas Chaffin Survey. This will be the second 5,300-foot test on this block, one having been abandoned a couple of years ago in the J. B. Hays Survey at 5,377 feet.

No other wildcat locations were reported for the district this week, but five such tests were abandoned as dry. Two of these were shallow tests in Fannin, one in Angelina, one in Anderson and a 4,560-foot test in Franklin County. The latter test was drilled by the Atex Oil Co. on the Jaggers lands, 6 miles east of Mount Vernon, located in the J. Humphreys Survey. Elevation is 398 feet. It is south of the fault plane on which the Talco field is located in the northeast corner of the county.

Companies and independents have been leasing in the Como area in eastern Hopkins County, and there is the probability that a test will be drilled in that area later.

Sulphur Bluff and Talco Pools

The daily allowable of wells in the Talco field in northwestern Titus and northeastern Franklin counties was cut from 100 bbls. to 75 bbls. per day by the Railroad Commission, which brings the allowable of the wells to only half of what the first wells were allowed in the field.

The Railroad Commission has established a branch office in the Talco field to regulate production and pass on tenders of oil to be transported. C. B. Yarbrough will be in charge of the tender department and John Scott in charge of the records department, with R. K. Walke in charge of the engineering and field department. The commission is now working up a report showing the number of wells in the field making salt water, some of which show as high as 50 per cent brine. The number of wells making water can easily be tabulated by riding through the field and noting the treating plants on wells.

The Talco Pipe Line Co. has completed erection of a 55,000-bbl. tank in the field and is starting another for storage facilities in conjunction with the pipe line it will lay to Mount Pleasant, where its officers are interested in the Premier Asphalt Co., which will erect a refinery in that city.

Talco oil was first pooh-poohed because of its low gravity, from 25 down to around 20 and less, and for its sulfur content, but regardless of these components, the Humble Oil & Refining Co. is actively soliciting connections in the field, with two other gathering systems also after connections. To handle the viscous crude, the Humble Pipe Line Co. is installing two more booster stations on its Talco-Longview line. The company also expects heaters in oil tanks will be necessary this winter. Steam coils will probably be used for this purpose.

Development of the Sulphur Bluff pool in Hopkins County is now under way with two derricks being erected, one by Hager and others and the other by Walter Goldston, and one test drilling, with the former associates planning on drilling 18 wells in the pool, keeping two rotary rigs running until all are completed. Ten locations have already been staked for over half the proposed tests. With these under way and three already producing in the field major companies holding intervening and offset leases will be forced to become active in the near future. The Gulf Oil Corp. is one of these holding intervening acreage. When this company drills and obtains production, the pipe line division will no doubt lay a line from its leases to connect with its Mid-Continent-Gulf Coast system which passes within about 3 miles east of the field. However, before that takes place, Murchison and associates are expected to have their independently-owned line in operation from this pool by way of the Talco field thence to East Texas where it will connect with the American Liberty Pipe Line Co.'s 8-inch system to Houston ship channel.

Hager Spur is the name given the new siding and spur on the Cotton Belt Railroad about 6 miles east of Sulphur Springs, in Hopkins County. This spur was named after Dilworth Hager, geologist and part owner of the Sulphur Bluff discovery. A good road has been built from this trackage to the pool and drilling equipment is being unloaded to be moved to the pool by truck. A loading rack may later be erected at this spur and a line laid to the pool to move out some of the oil before the above mentioned line is completed.

East Texas Field

The hourly potential factor in the East Texas field was not decreased this week by the Railroad Commission when it cut back the allowables in nearly all other fields in the state. The factor remains at 2.32 per cent.

There were 41 oil wells completed in the field this week with four tests overstepping the bounds of production and missing the pay. Eight of the wells were brought in on artificial lift, swabbing or pumping. The density of the field is now down to one well to each 5.98 acres, independent operators being credited with one well to every 4.72 acres and major producers with one well to every 6.96 acres.

Gasoline prices in the East Texas field are better this season than at any time in the past due to the limited number of refineries operating. Only 19 plants are processing East Texas crude in the field, where previously there were as high as 80 operating, with 50 refineries holding crude stocks. Now only 19 plants hold crude stocks and only two plants considered as operating on "hot" crude, according to field reports. On November 1, 1935, there were 28 plants operating, having crude stocks amounting to 2,196,025 bbls. On October 1, this year, the 19 plants operating held crude stocks of only 425,365 bbls. Gasoline stocks last year were 171,090 bbls. and this year they were down to 125,690 bbls., reflecting a healthy condition in the gasoline situation in the field.

One company in the field is trying to purchase 100,000 bbls. of East Texas crude, offering a premium of 5 cents per barrel over the gathering charge. Another company was reported as seeking to purchase a much greater amount than this, but oil is difficult to secure in the field, and since the Railroad Commission cut back the daily allowable for the state this week, as mentioned before, East Texas oil should be at a premium.

EAST TEXAS COMPLETIONS

Completions in the East Texas field with their top of sand and total depth records and initial production were as follows:

Gregg County

Arkansas Fuel Oil Co. No. 10 Steven, 3,594-3,616 feet, 19 bbls. in 15 minutes. Atlantic Refining Co. No. 9-B Nicholson, 3,600-05 feet, 18 bbls. in 20 minutes; No. 10-B Nicholson, 3,576-96 feet, 85 bbls. per hour. Atlantic and Sun Oil Co. No. 72 Hayes, 3,520-53 feet, 110 bbls. per hour. Cox & Hamon No. 13 Lacy, 3,518-70 feet, 40 bbls. in 30 minutes. Humble Oil & Refining Co. No. 22 Lawrence, 3,585-3,615 feet, 20 bbls. in 23 minutes. Lee and others No. 1 Bunch, 3,548-50 feet, 20 bbls. in 30 minutes. Shell Petroleum Corp. No. 22 Burnside, 3,490-3,526 feet, 90 bbls. per hour. Stanolind and Tide Water No. 14 McGeorge, 3,453-89 feet, 20 bbls. in 20 minutes. Tide Water Oil Co. No. 24 Castleberry, 3,605-26 feet, 7 bbls. in 10 minutes; No. 8 Fisher, 3,474-84 feet, 40 bbls. per hour. Delta Drilling Co. No. 4 Crim, 3,521-60 feet, 20 bbls. in six hours, on pump. Dyck Oil Co. No. 11 Blackman, 3,654-55 feet, 32 bbls. per hour. Gulf Oil Corp. No. 78 Hilburn, 3,527-38 feet, 60 bbls. per hour. Humble Oil & Refining Co. No. 21 Knowles, 3,560-3,631 feet, 40 bbls. per hour. Humphrey No. 5-B Crews, 3,659-60 feet, 36 bbls. per hour. Lacy No. 5 Reynolds, 3,524-60 feet, 56 bbls. per hour. Magnolia Petroleum Co. No. 3 Still, 3,556-66 feet, 15 bbls. in four hours, on pump. Tom Potter No. 4 Culver, 3,507-15 feet, 20 bbls. in five hours, on pump. J. M. Rush No. 6-B Crews, 3,584-85 feet, 20 bbls. per hour. Texola and others No. 1 Goforth, 3,692-93 feet, dry and abandoned. Witco Oil & Gas Co. No. 8 Blackman, 3,670-71 feet, 25 bbls. per hour.

Rusk County

Georgian Corp. No. 1 Henderson, dry and abandoned 3,577 feet. Gulf Oil Corp. No. 17-A Christian, 3,618-40 feet, 60 bbls. per hour through three-quarters inch choke. Jones & Shelburn No. 4 Leach, 3,483-3,523 feet, 8 bbls. per hour, on pump. Summer and others No. 1 Bacon, 3,797-98 feet, 20 bbls. per day, on pump. Cockburn & Boaz No. 15 Green, 3,817-18 feet, 60 bbls. per hour. Falcon Oil Co. No. 9 Ashby, dry and abandoned 3,726 feet. Humble Oil & Refining Co. No. 21 Box, 3,740-91 feet, 80 bbls. per hour. Humble Oil & Refining Co. No. 58-A Kangerga, 3,662-3,710 feet, 50 bbls. per hour. Ohio Oil Co. No. 85 Grissom, 3,640-52 feet, 19 bbls. in 20 minutes through one-half inch choke. T. L. Jaggers No. 1 Dickerson, 3,555-3,620 feet, 60 bbls. in six hours. Retsal Drilling Co. No. 4 Rollins, 3,604-16 feet, 20 bbls. per hour. Royall Petroleum Co. No. 7 Ector, temporarily abandoned 3,585 feet. Sinclair Prairie Oil Co. No. 75-A Mayfield,

(Continued on Page 104)

Southwest Texas District

MINOR FIELD EXTENSIONS IN SAXET, LOPEZ, McCAMPBELL

By GEORGE WEBER

HOUSTON, Tex., Oct. 26.—Minor extensions to production in the Saxet, Lopez and McCampbell fields of Southwest Texas marked the past week's development in that area. Results on the testing of the Eleanor Oil Co. No. 1 Kline, San Patricio County wildcat located between Gregory and Aransas Pass, were disappointing. The 5,800-foot Frio sand in the Saxet field was again defined as Houston Oil Co. No. 1-A fee tested salt water. A possible discovery of new production in Jim Wells County, Tom Graham No. 1 Luby, located southwest of the Bentonville field, had not yet received a production test at the end of the week.

Although drilling activity in the busiest sections of Southwest Texas, including Nueces, San Patricio, Duval, Webb and Zapata counties, continued normal, gains in operations were favoring the Bee County area and the Fault Line zone in Atascosa, Medina and Caldwell counties. Despite numerous recent failures, wildcatting continues active in the Jackson trend of Live Oak, McMullen, Jim Wells and other neighboring counties.

The Eleanor Oil Co. No. 1 Kline, San Patricio County wildcat which has held attention of Southwest Texas operators for several weeks, failed to show any oil over the past week, as operators continued perforating casing and testing the sand. The test is bottomed at 6,681 feet and sand was cored from 6,297-6,380 feet. A Schlumberger survey of the hole showed the sand body to have a high porosity and unusually high resistivity of 26 ohms. Salt water had been reported recovered in all perforation tests until the latter part of the week when fresh water was tested at 6,246-52 feet.

Hooper Rutherford, Inc., has staked an offset to the wildcat on the J. D. Willis tract, east of the Kline land, and derrick is up for a second test to be drilled shortly. The Eleanor test brought about a very active leasing program in the general area and to the north and east in the intervening area between the test and the newly opened McCampbell field on the Aransas-San Patricio County line.

Additional tests are anticipated in the near future in the Rockport area of Aransas County. Several geophysical crews have been active in the district, and some lease deals with drilling obligations were reported made.

Extend McCampbell Field

The McCampbell field was definitely extended in Aransas County by completion of the Atlantic Refining Co. No. 1 McCampbell for an estimated 200 bbls. per hour. The new producer, third to be completed in the new field, proves the production approximately 1,000 feet to the east.

In Jim Wells County the Tom Graham No. 1 Luby Estate was being deepened after attempts to make drill-stem tests had failed. The wildcat encountered sand at 5,418-23 feet with a show of oil, and after the seat failed to hold in two successive drill-stem tests casing was set. Liner is now being pulled to deepen the test. No. 1 Luby is located about 1 mile west of the town of Bentonville, and about 2½ miles southwest of oil production in the Bentonville field. Some interested parties in the test believe that the possible production to be found in the wildcat will mark another field rather than an extension to Bentonville.

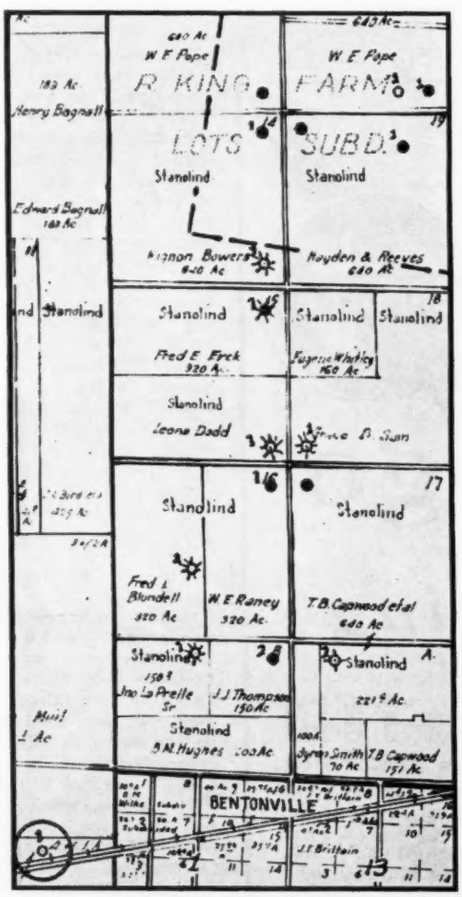
Goliad County will receive another important deep test when the Sun Oil Co. No. 1 Lena Fromme spuds in shortly. The test is rigged up to drill about 2 miles south of the new oil field recently opened by the California Co. on the Langrebe lease in the Metz Survey. The new field discovered by California Co. has been named the Weser field by the nomenclature committee of the San Antonio Geological Society.

Increase in Drilling

The area comprising northern Bee County and western Goliad County is experiencing a decided increase in drilling activity. In Bee County active and prospective tests are located in the Cosden field west of Pettus, the Foley field, Pettus field, West Tuleta and Voss. In Goliad County the North Pettus field is due for more development as a result of the recent completion of a good producer in the Conroe sand of the Yegua formation.

Another gain in drilling activity is centering in the fault line zone at two points. Atascosa and Medina counties are receiving several new wildcat and field tests. Six wildcats will be drilled in the two counties, and operations have resumed in the shallow Ina and Chicon Lake fields of Medina County.

The Caldwell, Guadalupe and Bastrop counties



—Porter Regenold, Maps, Corpus Christi.

Tom Graham No. 1 Luby, Jim Wells County wildcat, indicated by the larger cirle is a possible discovery of new production. It is about 2 miles southwest of the Bentonville field. It cored sand with a show of oil at 5,418-23 feet and is to be deepened

sector is gaining in new tests to be drilled to shallow depths in chalk and serpentine. The Hilbig, Branyon, Lytton Springs, Darst Creek and Clark fields are showing some revival of activity.

Nueces County gained two more prospective wildcat tests during the week as location was staked for Fearis & Cosner No. 1 Stockton in section 25 of the Laureles Farm Tracts about 12 miles southwest of Corpus Christi, and derrick was erected for the Allen & Seaboard Oil Corp. No. 1 Chapman in the same general area. Between the Saxet and Saxet Heights fields, the Barnsdall Oil Co. No. 1 Weil was coring below production levels in either field at 6,430 feet. South of the Clara Driscoll field O. W. Killam continues drilling the No. 1 Sevier below 4,300 feet.

Saxet Field

The Saxet field was both extended and delimited during the week. Richardson Petroleum Co. No. 2 Cain & Secrist, located in Block 23 of the Russell Farm tracts, 1,320 feet east of production, was completed in the 4,400-foot Clarkwood sand for 256 bbls. per day on a five thirty-seconds-inch choke. The 5,800-foot of Frio sand was shown unproductive in the north section of the field by Houston Oil Co. No. 2-A fee in Survey 582. The sand cored at 5,825-32 feet tested 17 thribles of salt water on a drill stem test, and operators were coring deeper in sandy shale at 6,020 feet late in the week. Elsewhere in the field seven other producers were completed in the 4,400-foot, 4,800-foot and 5,800-foot sands. One, Southern Mineral Corp. No. 6 Isensee was reported making distillate and gas from a small sand at 6,283-90 feet.

Flour Bluff, a new producing area recently discovered southwest of Corpus Christi between Oso Creek and Laguna Madre, is due for considerable development, as several tests approach the sand. One, Humble Oil & Refining Co. No. 1 Robertson, recovered 2,000 feet of oil and no salt water on a drill stem test at 6,648-65 feet indicating an extension to the productive area. Four other tests including three of Humble's are drilling in the field. Costa Oil Co. No. 1 Henderson was completed in this field during the week for an estimated 150 bbls. per day.

Pantana's Wild Well

The Mestanas area of Hidalgo County, which has been the focus of attention in the Rio Grande Valley because of the Pantana Oil Co. No. 1 Harding, wild burning well, promises to hold that place with the beginning of two other tests in the vicinity of the wild well. The No. 1 Harding is still burning, and although the flow of oil and salt water have ceased, the gas is still flowing in heads. The crater formed by the flow now measures approximately 300 by 450 feet at its widest points. The two tests being started by the McCollum Exploration Co. will be drilled southeast of the wild well.

Government Wells is experiencing a revival in drilling activity on the west edge, where recent tests brought in production from the Loma Novia sand. In the past week Magnolia Petroleum Co. completed No. 12 Johnson in Survey 44 for about 27 bbls. per day from this sand at 2,338-39 feet. Loma Novia and Seven Sisters share the bulk of the remaining activity in Duval County, although Colmena, Driscoll, Kohler and other small fields are active. The Lopez field continues to show the greatest number of completions in Southwest Texas. Shallow production and relatively easy drilling shortens the time of completion of wells in this field.

Central West

Operations in Central Ohio, Kentucky, Illinois, Indiana

By GEORGE A. WHITNEY

FINDLAY, Ohio, Oct. 26.—The lease play in Fulton County, northwestern Ohio, continues to attract operators to that district and nearly one-quarter of the county is under lease at this time and additional leases are being filed daily. The play is now centered in the northeastern portion of the county, in York and Swan Creek Townships.

The majority of leases are held by N. L. Stevens, of Chicago, who drilled the discovery well in this section, and local independent operators. The Sun Oil Co. has secured about 20 leases and is the first major company to become interested in the new field.

Activity was started by N. L. Stevens, who drilled four tests to the Trenton sand, which was found at about 2,100 feet. With the leasing of approximately 70 square miles of land around Wauseon by this operator and the sinking of the first test, local operators dropped their skepticism and a rush was made to secure land, more as a protective measure in case of the opening of a prolific field than anything else. Three of the four tests drilled showed oil in paying quantities while the fourth, which made 8,000 feet of gas, was abandoned when it filled up with water.

The discovery well, on the Herman Voder farm in section 16, Clinton Township, pumped approximately 15 bbls. a day and has been sold to the Valvoline Oil Co. of Butler, Pa. The other two wells, which were completed over a month ago, have not been put on the pump as yet, but have been bailed on several tests and will undoubtedly make small producers. The oil found in these tests is a good grade of crude with a greenish cast and has a gravity of 38.9 and a sulfur content of only .015.

Preparations are being made to drill two more wells in section 13, German Township, near the test on the Enos Roth farm, by Norman Stevens. These wells are scheduled for the Trenton sand, and it is reported that the Sun Oil Co. will have a large interest in this development.

Another important feature of the Ohio fields this week was the announcement that a new refinery is to be constructed at Findlay, which will operate on Lima crude exclusively and have a daily capacity of 1,500 bbls. This new company is to be known as the Lima Crude Refining Co. and is a unit of Petroleum Fuels, Inc., of Cleveland.

The Pure Oil Co. has contracted to take the bulk of the 2,300 bbls. daily production of the Lima field, December 1, and with this new refinery creating a demand above the remaining production of this area, there is no doubt that extensive new work will be started in this district and the uncertainty of a market that has faced new production for the past few years will be removed.

CENTRAL OHIO FIELD

The new shallow pool in Morgan County, Ohio, continues to be the most consistent oil producing area in the Central Ohio field, and extensive work is being carried on in that area. Although the wells have been small, the pay sands are near enough to the surface to make drilling comparatively inexpensive. To date, oil has been found in the Peeker sand at from 205 feet to 450 feet, in the first Cow Run sand at 600 feet to 660 feet, in the Salt sand at 870 to 885 feet, in the Brill sand at 950 to 965 feet, and in the second Berea sand at 1,575 to 1,590 feet. In section 9, Center Township, Barnesville Development Co. drilled a test on the C. E. Combs property which was abandoned as a dry hole. It was drilled through the Niagara lime at 3,590 feet and into the Upper Oriskany sand, which was topped at 3,707 feet without a show of oil, gas or water.

Ohio Fuel Gas Co. completed a commercial gas well on the D. E. Phelps property, in Lot 2, Marion Township, Morgan County. It was drilled to the Brill sand at 955-59 feet, and the same operator's have staked a location for No. 2 on this farm. In section 12, same township, Penn Construction Co. No. 1 S. S. Williams gauged 539,000 feet of gas naturally from the Salt sand at 875-79 feet. In section 1, Homer Township, Southland Oil Co. No. 24 Edward North was completed below the second Berea sand at 1414-23 feet and gauged 200,000 feet of gas after a shot. In section 14, Penn Township, Penn Construction Co. is rigging up on the Charles Wood property. Appleman Brothers No. 2 William Masterson in section 16, Deerfield Township, which was shut down for repairs, has resumed drilling and is below 700 feet.

Windsor Township has been the most prolific oil area in Morgan County to date and two small producers were completed in that section in the past week. In Lot 2, Bachelor and others No. 9 Marie Yarnell made a showing of oil in the First Cow Run sand at 635-59 feet and produced 5 bbls. the first 24 hours after a shot. In Lot 1,097, Burt & Son No. 18 F. & E. Tuttle was completed in the Peeker sand at 400-40 feet, and after being shot with 485 pounds of gelatin produced 6 bbls. the first 24 hours.

In Coshocton County, section 8, Perry Township, Hulse-Kuntze, Inc., No. 1 J. W. Mosholder was drilled to the Clinton sand at 3,096-3,154 feet and swabbed 40 bbls. the first day. A conservative estimate places this well as a 75-bbl. producer after it has been shot. In section 3, Franklin Township, Ohio Fuel Gas Co. is breaking ground for No. 3 on their own property.

McCorkill & Co. have completed a test on the A. H. Summerlin farm in section 3, Hartland Township, Huron County. It was drilled through the Shale at 207-305 feet and at 644-48 feet and gauged 529,000 feet of gas naturally. The same operators are drilling another test on the Mary A. Park farm in section 4.

In Stark County, section 12, Perry Township, Blake & Fawcett No. 1 Indianola Estate was completed below the Clinton sand at 4,476-98 feet and gauged 2,694,000 feet of gas after a shot. In the same township, section 26, East Ohio Gas Co. brought in a gas well, which gauged 500,000 feet in the same sand, on the Edward Kocher property. The East Ohio Gas Co. has staked a new location on the J. & B. Fohl property in section 10, Plain Township, and the same operators are completing No. 2 H. McDowell in section 15. In section 31, Lyons & Co. No. 1 John Fasnacht has been shut down at 500 feet. In section 3, Jackson Township, East Ohio Gas Co. is building a rig on the Price Community property.

Ohio Fuel Gas Co. completed a commercial gas well on the Barbara Young property in section 17, Washington Township, Holmes County, in Clinton sand at 2,795-2,806 feet. The same company has staked a location on the adjoining farm of George Young in the same section.

In Lorain County, Lot 99, Eaton Township, Ohio Fuel Gas Co. made a location on the J. Stanislawski property and in Lot 55, Grafton Township, on the A. Schaefer lease. In Lot 81, Columbia Township, Ohio Fuel Gas Co. No. 1 A. D. Carpenter was completed below the Clinton sand at 2,629-33 feet as a commercial gas well. William Dempsey made a location on the Emma Baldauf property in 14, Avon Township.

Obermiller Brothers No. 3 Frank V. Wood in section 8, Liverpool Township, Medina County, was drilled through the Shell at 2,722-29 feet and gauged 300,000 feet of gas. In section 23, Guilford Township, Ohio Fuel Gas Co. is spudding on the Hungarian Church property, and in section 1, Chatham Township, the same operators are rigged up for No. 2 Grover Heilman.

In Wayne County, section 12, Clinton Township, Ohio Fuel Gas Co. No. 2 Fred Maurer was completed in the Clinton sand as a commercial gas well. The same company is spudding on the College of Wooster property in section 5.

Brooks Johnson is down 400 feet on No. 2 Stevenson & Pendergast in section 9, Twinsboro Township, and the East Ohio Gas Co. has resumed drilling No. 1 Charles Daily in section 36, Franklin Township.

In Perry County, section 32, Hopewell Township, Ohio Fuel Gas Co. made a location on the Lloyd M. Poorman property. In section 5, Reading Township, Planet Oil Co. is building rig for No. 3 O. T. Vansickle. In section 18, Clayton Township, Mid East Gas Co. is down 700 feet on the W. R. Williams lease.

Ohio Fuel Gas Co. No. 1 Gurney L. Michael in section 35, Chester Township, Meigs County, was drilled through First Berea sand at 1,767-79 feet with a show of oil, but it filled with water and was abandoned. In section 35, Lebanon Township, the same company's No. 1 W. Hoyt Hall

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was a commercial gas well in First Berea sand, and a location has been made on the J. A. Bradford property in section 34. In Rutland Township, section 30, McKnight & Co. No. 3 Walter Grass was drilled through the second Cow Run sand at 557-77 feet to Maxon sand at 765 feet, where the hole filled with water. It was plugged back to Cow Run sand at 577 feet and gauged 100,000 feet of gas. In section 1, Barton & Utsinger staked a location for No. 2 on the D. Hysell farm and a rig is being built. In Hocking County, section 19, Ward Township, Kachelmacher Estate No. 4 Nelsonville Coal & Land Co., which was reported to have made 100,000 feet of gas naturally in the Shale last week. It made only 10,000 feet in the Shale and when drilled to the Clinton and shot it produced 20,760 feet of gas.

Kelch Brothers No. 5 L. & M. Backus in section 35, Brown Township, Vinton County, was drilled 10 feet into Berea sand topped at 832 feet with only one-half barrel oil showing. In section 1, same township, I. C. Robinson No. 1 on the B.&O.R.R. property made a small show of oil in the Berea at 1,218 feet and filled with water at 1,240 feet. It is to be drilled deeper. In section 2, Swan Township, Kelch Brothers No. 2 Anna Boyd was drilled 10 feet into the Berea sand at 825 feet with a small amount of water showing and was abandoned. In section 3, Knox Township, Co-Operative Oil & Gas Co. has staked a location for No. 4 on their own property.

In Fairfield County, section 23, Walnut Township, Bishop & Co. No. 2 on the Plum property is fishing for the bailer at 1,770 feet. In section 22, Berne Township, City Natural Gas Works is completing No. 2 on the L. J. Knecht property.

Ohio Fuel Gas Co. No. 2 Cora M. Evans, in Fraction 18, Lodi Township, Athens County, was completed below the second Berea sand at 1,577-90 feet and was a commercial gas well. In section 17, A. D. Townsend is rigged up for No. 2 on the John Hartley lease. In Fraction 17, Ames Township, D. T. Orndoff No. 1 G. L. Bryzon gauged 100,000 feet of gas naturally in the Berea at 1,374 feet. Williams Brothers No. 1 William Crippen in section 16, Rome Township, was also a gas well. It gauged 939,000 feet of gas in the Stray sand at 744-46 feet. Albany Gas Co. is rigged up on the Ray Bailes property in Fraction 12, Lee Township, and in section 18, Canaan Township, Carpenter & Glazier are rigging up for No. 15 on the Lena Bean property.

KENTUCKY FIELD

Six producers were completed in the town of Livermore, Ky., and numerous tests are being drilled in an effort to extend the field. On the R. A. Rowan lot, Troy Refining Co. completed a 90-bbl. initial producer in the Barlow sand. Barrett & Co. No. 1 on the Howard lot produced 25 bbls. the first 24 hours after a shot. On the Edward Johnson town lot, Lion Oil Co. No. 1 had an initial production of 50 bbls. The Major Oil Co. completed two producers this week, one on the Ferguson lot which produced 50 bbls., and one on the Stevens heirs property which had an initial production of 90 bbls. M. Culbert No. 1 F. Thompson started at 45 bbls. a day after a shot.

Three small producers were brought in last week in the Deanfield pool in Ohio County. Kentucky Natural Gas Co. completed Nos. 21 and 22 on the Mamie Rodgers & Co. property. No. 21 produced 10 bbls. the first 24 hours after a shot and No. 22 had an initial production of 30 bbls. after a shot.

In Henderson County, near Niagara, Imperial Oil & Gas Products Co. completed a duster on the T. Walker property. Ranger Oil Co. and others No. 9 C. M. Gish produced 35 bbls. the first 24 hours after a shot. In the same district Brunner & Co. No. 1 Oscar Bunch had an initial production of 3 bbls. after a shot.

INDIANA FIELD

No completions were reported in the Indiana field this past seven days. In Vigo County, SE NW of section 32, Prairie Creek Township, Ohio Oil Co. is drilling No. 3 on the Mabel Prevo farm. In the NE SW of the same section, Siosi Oil Co. is down 1,500 feet on the F. I. Williams property.

In Vanderburgh County, E half of NW of section 23, German Township, P. E. Tichenor is drilling on an unreported farm.

Tom Castor is drilling on the Oscar Hughes farm in the NE SE of section 5, Jackson Township, Ripley County.

In Randolph County, section 9, Jackson Township, E. G. Henderson is drilling a test on the J. E. Conklin property.

Dunn Remains President

R. W. Dunn, general manager of the General American Oil Co., Hattiesburg, Miss., was re-elected president of the Mississippi Oil Dealers Association at the annual meeting October 21 in Jackson, Miss. Taxation was the subject of chief discussion by the 1,000 dealers present. Attorney Herbert Nunnery, counsel for the Mississippi Petroleum Industries Committee, said the service station manager is the best tax collector in the world.

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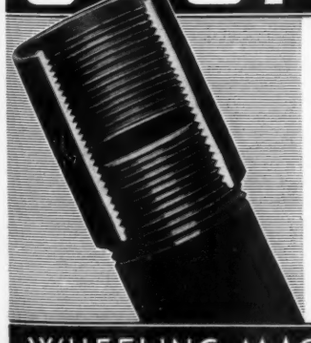

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Central West

Operations in Central Ohio, Kentucky, Illinois, Indiana

By GEORGE A. WHITNEY

FINDLAY, Ohio, Oct. 26.—The lease play in Fulton County, northwestern Ohio, continues to attract operators to that district and nearly one-quarter of the county is under lease at this time and additional leases are being filed daily. The play is now centered in the northeastern portion of the county, in York and Swan Creek Townships.

The majority of leases are held by N. L. Stevens, of Chicago, who drilled the discovery well in this section, and local independent operators. The Sun Oil Co. has secured about 20 leases and is the first major company to become interested in the new field.

Activity was started by N. L. Stevens, who drilled four tests to the Trenton sand, which was found at about 2,100 feet. With the leasing of approximately 70 square miles of land around Wauseon by this operator and the sinking of the first test, local operators dropped their skepticism and a rush was made to secure land, more as a protective measure in case of the opening of a prolific field than anything else. Three of the four tests drilled showed oil in paying quantities while the fourth, which made 8,000 feet of gas, was abandoned when it filled up with water.

The discovery well, on the Herman Voder farm in section 16, Clinton Township, pumped approximately 15 bbls. a day and has been sold to the Valvoline Oil Co. of Butler, Pa. The other two wells, which were completed over a month ago, have not been put on the pump as yet, but have been bailed on several tests and will undoubtedly make small producers. The oil found in these tests is a good grade of crude with a greenish cast and has a gravity of 38.9 and a sulfur content of only .015.

Preparations are being made to drill two more wells in section 13, German Township, near the test on the Enos Roth farm, by Norman Stevens. These wells are scheduled for the Trenton sand, and it is reported that the Sun Oil Co. will have a large interest in this development.

Another important feature of the Ohio fields this week was the announcement that a new refinery is to be constructed at Findlay, which will operate on Lima crude exclusively and have a daily capacity of 1,500 bbls. This new company is to be known as the Lima Crude Refining Co. and is a unit of Petroleum Fuels, Inc., of Cleveland.

The Pure Oil Co. has contracted to take the bulk of the 2,300 bbls. daily production of the Lima field, December 1, and with this new refinery creating a demand above the remaining production of this area, there is no doubt that extensive new work will be started in this district and the uncertainty of a market that has faced new production for the past few years will be removed.

CENTRAL OHIO FIELD

The new shallow pool in Morgan County, Ohio, continues to be the most consistent oil producing area in the Central Ohio field, and extensive work is being carried on in that area. Although the wells have been small, the pay sands are near enough to the surface to make drilling comparatively inexpensive. To date, oil has been found in the Peeker sand at from 205 feet to 450 feet, in the first Cow Run sand at 600 feet to 660 feet, in the Salt sand at 870 to 885 feet, in the Brill sand at 950 to 965 feet, and in the second Berea sand at 1,575 to 1,590 feet. In section 9, Center Township, Barnesville Development Co. drilled a test on the C. E. Combs property which was abandoned as a dry hole. It was drilled through the Niagara lime at 3,590 feet and into the Upper Oriskany sand, which was topped at 3,707 feet without a show of oil, gas or water.

Ohio Fuel Gas Co. completed a commercial gas well on the D. E. Phelps property, in Lot 2, Marion Township, Morgan County. It was drilled to the Brill sand at 955-59 feet, and the same operator's have staked a location for No. 2 on this farm. In section 12, same township, Penn Construction Co. No. 1 S. S. Williams gauged 539,000 feet of gas naturally from the Salt sand at 875-79 feet. In section 1, Homer Township, Southland Oil Co. No. 24 Edward North was completed below the second Berea sand at 1414-23 feet and gauged 200,000 feet of gas after a shot. In section 14, Penn Township, Penn Construction Co. is rigging up on the Charles Wood property. Appleman Brothers No. 2 William Masterson in section 16, Deerfield Township, which was shut down for repairs, has resumed drilling and is below 700 feet.

Windsor Township has been the most prolific oil area in Morgan County to date and two small producers were completed in that section in the past week. In Lot 2, Bachelor and others No. 9 Marie Yarnell made a showing of oil in the First Cow Run sand at 635-59 feet and produced 5 bbls. the first 24 hours after a shot. In Lot 1,097, Burt & Son No. 18 F. & E. Tuttle was completed in the Peeker sand at 400-40 feet, and after being shot with 485 pounds of gelatin produced 6 bbls. the first 24 hours.

In Coshocton County, section 8, Perry Township, Hulse-Kuntze, Inc., No. 1 J. W. Mosholder was drilled to the Clinton sand at 3,096-3,154 feet and swabbed 40 bbls. the first day. A conservative estimate places this well as a 75-bbl. producer after it has been shot. In section 3, Franklin Township, Ohio Fuel Gas Co. is breaking ground for No. 3 on their own property.

McCorkill & Co. have completed a test on the A. H. Summerlin farm in section 3, Hartland Township, Huron County. It was drilled through the Shale at 207-305 feet and at 644-48 feet and gauged 529,000 feet of gas naturally. The same operators are drilling another test on the Mary A. Park farm in section 4.

In Stark County, section 12, Perry Township, Blake & Fawcett No. 1 Indianola Estate was completed below the Clinton sand at 4,476-98 feet and gauged 2,694,000 feet of gas after a shot. In the same township, section 26, East Ohio Gas Co. brought in a gas well, which gauged 500,000 feet in the same sand, on the Edward Kocher property. The East Ohio Gas Co. has staked a new location on the J. & B. Fohl property in section 10, Plain Township, and the same operators are completing No. 2 H. McDowell in section 15. In section 31, Lyons & Co. No. 1 John Fasnacht has been shut down at 500 feet. In section 3, Jackson Township, East Ohio Gas Co. is building a rig on the Price Community property.

Ohio Fuel Gas Co. completed a commercial gas well on the Barbara Young property in section 17, Washington Township, Holmes County, in Clinton sand at 2,795-2,806 feet. The same company has staked a location on the adjoining farm of George Young in the same section.

In Lorain County, Lot 99, Eaton Township, Ohio Fuel Gas Co. made a location on the J. Stanislawski property and in Lot 55, Grafton Township, on the A. Schaefer lease. In Lot 81, Columbia Township, Ohio Fuel Gas Co. No. 1 A. D. Carpenter was completed below the Clinton sand at 2,629-33 feet as a commercial gas well. William Dempsey made a location on the Emma Baldauf property in 14, Avon Township.

Obermiller Brothers No. 3 Frank V. Wood in section 8, Liverpool Township, Medina County, was drilled through the Shell at 2,722-29 feet and gauged 300,000 feet of gas. In section 23, Guilford Township, Ohio Fuel Gas Co. is spudding on the Hungarian Church property, and in section 1, Chatham Township, the same operators are rigged up for No. 2 Grover Heilman.

In Wayne County, section 12, Clinton Township, Ohio Fuel Gas Co. No. 2 Fred Maurer was completed in the Clinton sand as a commercial gas well. The same company is spudding on the College of Wooster property in section 5.

Brooks Johnson is down 400 feet on No. 2 Stevenson & Pendergast in section 9, Twinsboro Township, and the East Ohio Gas Co. has resumed drilling No. 1 Charles Daily in section 36, Franklin Township.

In Perry County, section 32, Hopewell Township, Ohio Fuel Gas Co. made a location on the Lloyd M. Poorman property. In section 5, Reading Township, Planet Oil Co. is building rig for No. 3 O. T. Vansickle. In section 18, Clayton Township, Mid East Gas Co. is down 700 feet on the W. R. Williams lease.

Ohio Fuel Gas Co. No. 1 Gurney L. Michael in section 35, Chester Township, Meigs County, was drilled through First Berea sand at 1,767-79 feet with a show of oil, but it filled with water and was abandoned. In section 35, Lebanon Township, the same company's No. 1 W. Hoyt Hall

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was a commercial gas well in First Berea sand, and a location has been made on the J. A. Bradford property in section 34. In Rutland Township, section 30, McKnight & Co. No. 3 Walter Grass was drilled through the second Cow Run sand at 557-77 feet to Maxon sand at 765 feet, where the hole filled with water. It was plugged back to Cow Run sand at 577 feet and gauged 100,000 feet of gas. In section 1, Barton & Utsinger staked a location for No. 2 on the D. Hysell farm and a rig is being built. In Hocking County, section 19, Ward Township, Kachelmacher Estate No. 4 Nelsonville Coal & Land Co., which was reported to have made 100,000 feet of gas naturally in the Shale last week. It made only 10,000 feet in the Shale and when drilled to the Clinton and shot it produced 20,760 feet of gas.

Kelch Brothers No. 5 L. & M. Backus in section 35, Brown Township, Vinton County, was drilled 10 feet into Berea sand topped at 832 feet with only one-half barrel oil showing. In section 1, same township, I. C. Robinson No. 1 on the B.&O.R.R. property made a small show of oil in the Berea at 1,218 feet and filled with water at 1,240 feet. It is to be drilled deeper. In section 2, Swan Township, Kelch Brothers No. 2 Anna Boyd was drilled 10 feet into the Berea sand at 825 feet with a small amount of water showing and was abandoned. In section 3, Knox Township, Co-Operative Oil & Gas Co. has staked a location for No. 4 on their own property.

In Fairfield County, section 23, Walnut Township, Bishop & Co. No. 2 on the Plum property is fishing for the bailer at 1,770 feet. In section 22, Berne Township, City Natural Gas Works is completing No. 2 on the L. J. Knecht property.

Ohio Fuel Gas Co. No. 2 Cora M. Evans, in Fraction 18, Lodi Township, Athens County, was completed below the second Berea sand at 1,577-90 feet and was a commercial gas well. In section 17, A. D. Townsend is rigged up for No. 2 on the John Hartley lease. In Fraction 17, Ames Township, D. T. Orndoff No. 1 G. L. Bryzon gauged 100,000 feet of gas naturally in the Berea at 1,374 feet. Williams Brothers No. 1 William Crippen in section 16, Rome Township, was also a gas well. It gauged 939,000 feet of gas in the Stray sand at 744-46 feet. Albany Gas Co. is rigged up on the Ray Bailes property in Fraction 12, Lee Township, and in section 18, Canaan Township, Carpenter & Glazier are rigging up for No. 15 on the Lena Bean property.

KENTUCKY FIELD

Six producers were completed in the town of Livermore, Ky., and numerous tests are being drilled in an effort to extend the field. On the R. A. Rowan lot, Troy Refining Co. completed a 90-bbl. initial producer in the Barlow sand. Barrett & Co. No. 1 on the Howard lot produced 25 bbls. the first 24 hours after a shot. On the Edward Johnson town lot, Lion Oil Co. No. 1 had an initial production of 50 bbls. The Major Oil Co. completed two producers this week, one on the Ferguson lot which produced 50 bbls., and one on the Stevens heirs property which had an initial production of 90 bbls. M. Culbert No. 1 F. Thompson started at 45 bbls. a day after a shot.

Three small producers were brought in last week in the Deanfield pool in Ohio County. Kentucky Natural Gas Co. completed Nos. 21 and 22 on the Mamie Rodgers & Co. property. No. 21 produced 10 bbls. the first 24 hours after a shot and No. 22 had an initial production of 30 bbls. after a shot.

In Henderson County, near Niagara, Imperial Oil & Gas Products Co. completed a duster on the T. Walker property. Ranger Oil Co. and others No. 9 C. M. Gish produced 35 bbls. the first 24 hours after a shot. In the same district Brunner & Co. No. 1 Oscar Bunch had an initial production of 3 bbls. after a shot.

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Program for Seventeenth Annual Meeting of the American Petroleum Institute, Stevens Hotel, Chicago, Illinois

Monday, November 9

2:30 P.M.

BOARD OF DIRECTORS (Private Dining Room No. 1)

Tuesday, November 10

10:30 A.M.

MEETING OF BOARD OF COUNCILLORS: (North Ball Room)
To nominate candidates for election as members of the Board or Directors.

12 NOON

BOARD OF DIRECTORS (Luncheon): (Private Dining Room No. 1)

2:30 P.M.

GENERAL SESSION: (Grand Ball Room)
Presentation of Accident-Prevention Certificate Awards.
Report of Board of Councillors and Election of Directors.
Address: Axtell J. Byles, American Petroleum Institute.
Address: Speaker to be announced.

Group Session

8:00 P.M.

DIVISION OF PRODUCTION

MATERIALS: (South Ball Room)
(Sponsored by the Central Committee on Drilling and Production Practice.)
Presiding: C. W. Froome, Union Oil Co. of California.
Papers on the following subjects are now under consideration by the Program Committee. Speakers will be announced later:
Use of Vanadium Steels in Production Equipment.
Use of Molybdenum Steels in Production Equipment.
The Relation of Mechanical Testing to Steel Performance.

Group Session

8:00 P.M.

DIVISION OF MARKETING

AUTOMOTIVE TRANSPORTATION: (North Ball Room)
Presiding: Leo Huff, Pure Oil Co.
The Truck Tank, a Conveyor of Petroleum Products and the Development Which Called It Into Use: C. Wesley Boag, Heil Co.
Analysis of Truck Design with Special Reference to Tank Trucks: R. Cass, White Motor Co.
What Cooperation Can Do for the Trucking Industry: Ted V. Rodgers, American Trucking Association, Inc.

Wednesday, November 11

9:30 A.M.

BOARD OF DIRECTORS: (Private Dining Room No. 1)
The Executive Committee will meet immediately following the last session of the Board of Directors.

Group Session

10:00 A.M.

DIVISION OF PRODUCTION

FUNDAMENTAL RESEARCH: (South Ball Room)
(Sponsored by the Central Committee on Drilling and Production Practice.)
Presiding: G. V. D. Marx, Standard Oil Co. of California.
Papers on the following subjects are now under consideration by the Program Committee. Speakers will be announced later:
Formation Volumes and Energy Characteristics of Gas-Cap Material from Kettleman Hills Field.
Relationship Between Organic Material in the Sediments and the Presence or Absence of Oil.
Present Status of Hypothesis of Biogenesis of Petroleum.

Group Session

10:00 A.M.

DIVISION OF REFINING

REFINING TOPICS: (North Ball Room)
Presiding: M. G. Paulus, Standard Oil Co. (Indiana).
Cracking and Its Economic Significance: Gustav Egloff, Universal Oil Products Co.
The Problem of the Rational Utilization of Crude Oil and Its Distillates: V. N. Ipatieff, Universal Oil Products Co.
The Stability of Residual Fuels: A. H. Batchelder, Standard Oil Co. of California.

Group Session

10:00 A.M.

DIVISION OF MARKETING

MARKETING SESSION: (Grand Ball Room)
Presiding: George A. Perryman, Socony-Vacuum Oil Co., Inc.
Trends in Legislation Affecting Marketing: Willis Crane, National Petroleum Association.
The "Iowa" Plan:
From the Refiner's Viewpoint: B. L. Majewski, Deep Rock Oil Corp.
From the Distributor's Viewpoint: Charles F. Putnam, Putnam Service Co.
From the Retailer's Viewpoint: W. R. Schuh, National Association of Petroleum Retailers.
Report of Division's Nominating Committee: George A. Perryman, Socony-Vacuum Oil Co., Inc., Chairman.
Election of Twenty Members of the General Committee of the Division of Marketing.

Wednesday, November 11

GENERAL SESSION

2:30 P.M.

GENERAL SESSION: (Grand Ball Room)
Program to be announced.

7:30 P.M.

ANNUAL DINNER: (Grand Ball Room)
A program of entertainment is being arranged.

Thursday, November 12

Group Session

10:00 A.M.

DIVISION OF PRODUCTION

DRILLING PRACTICE: (South Ball Room)
(Sponsored by the Central Committee on Drilling and Production Practice.)
Presiding: J. T. Hayward, Barnsdall Oil Co.
Papers on the following subjects are now under consideration by the Program Committee. Speakers will be announced later:
Theoretical Determination of Collapse Strength of Casing.
Investigation of Angle Columns as Used for Derrick Legs.
Bottom-Hole Sampling and Analysis Apparatus.
Report of Division's Nominating Committee: M. E. Brock, Gulf Oil Corp., Chairman.
Election of Twenty Members of the General Committee of the Division of Production.

Group Session

10:00 A.M.

DIVISION OF REFINING

AUTOMOTIVE TOPICS: (North Ball Room)
Presiding: J. B. Rather, Socony-Vacuum Oil Co., Inc.
Lubrication Requirements of Automotive Gears and Rear Axles: H. R. Wolf, General Motors Corp.
Discussion by automotive and petroleum technologists.
The Newer Bearing Materials and Their Lubrication: H. C. Mougey, General Motors Corp.
Discussion by automotive and petroleum technologists.
Report of Division's Nominating Committee: Arthur E. Pew, Jr., Sun Oil Co., Chairman.
Election of Twenty Members of the General Committee of the Division of Refining.

Group Session

2:00 P.M.

DIVISION OF PRODUCTION

PRODUCTION PRACTICE: (South Ball Room)
(Sponsored by the Central Committee on Drilling and Production Practice.)
Presiding: T. V. Moore, Humble Oil & Refining Co.
Papers on the following subjects are now under consideration by the Program Committee. Speakers will be announced later:
Flow Tests on West Texas Wells.
Simultaneous Application of Surface and Subsurface Dynamometers.
Determination of Porosity and Saturation.
Technique for Procuring and Handling Cores for Saturation Tests.
(NOTE: Immediately following this group session, the Central Committee on Drilling and Production Practice will meet in this same room.)

Group Session

2:00 P.M.

DIVISION OF REFINING

REFINING TOPICS: (North Ball Room)
Presiding: C. L. Henderson, Vickers Petroleum Co.
Fifteen Years of Cooperative Fuel Research: T. G. Delbridge, Atlantic Refining Co.
The Chemical Constituents of Lubricating Oil—A.P.I. Research Project 6: Frederick D. Rossini, National Bureau of Standards.
Corrosion Protection in Refineries: Arthur Marks, Consulting Chemist and Metallurgist.

Unit Operation Being Advanced by Economic Considerations

By MITCHELL TUCKER

The benefits that may be expected from the unit operation of oil pools have long been recognized, but the extension of this practice has at times been seriously hindered because of the inability or unwillingness of a small minority of operators to enter into such cooperative agreements. Several forces are now slowly working within the industry toward the common purpose of facilitating the formation of unit operation contracts, and of making the extension of this procedure both possible and practical. An enumeration of these factors, and the increasing importance they are assuming, is contained in this preliminary discussion on the broad subject of unitization.

These combining forces may be classified into three groups: (1) The slowly changing principles of oil and gas law regarding ownership of petroleum in place, and the extension of police powers to the conservation of minerals in practically all producing states; (2) the more rapid advances in the field of petroleum engineering toward scientific control, benefits from which cannot be fully realized without some form of unit operation, and (3) the economic pressure being brought to bear from an increasing number of sources.

It is not necessary to discuss the monetary savings to be realized in the development and production of crude oil under unit control, or the increased ultimate recovery, or extension of flowing life, etc., that may be expected therefrom (all of which are quickly recognized as having long been established), but rather to consider the present-day transition of events which are combining to make unit operation more acceptable, and in some cases perhaps a demand of necessity.

The legal, engineering, and economic considerations necessary to the discussion of this subject, although definitely interconnected, can best be treated separately, and will be taken up in the order named.

LEGAL CONSIDERATIONS

The antiquated Rule of Capture has been the target for much criticism during the last few years, and has also carried a large share of the blame for overproduction and other economic wastes of oil and gas reserves. This case-made law, roughly stated, is that the owner or lessee of a tract of land acquires title to all the oil and gas produced from wells thereon, although it may be proved that part of such oil and gas migrated from adjoining lands. To fully understand how this apparently illogical principle became such an influence in American oil and gas law requires a study of the early cases, wherein a misconception of the source and nature of petroleum is evident. Undoubtedly, had the courts understood then, as is now known, that petroleum reserves in one certain pool have a common source of origin, are possessed with similar characteristics, occupy a common reservoir, and most important, have a common source of motivating energy, the Rule of Capture would not have been established, but instead, a rule providing for orderly production under some form of cooperative development. Nevertheless, the fact remains that the capture theory is definitely a part of the oil and gas law of all states. Due to the inelastic character of American law, a long evolutionary process will be necessary to make the rule inoperative or ineffectual, and this transition of legal thought is fast gaining ground today. One very sound means of more quickly correcting this seemingly injurious legal principle remains; that is, to effect a unitization of properties within oil pools. Here is provided a strong incentive for unit control, as the rule can be made ineffective without attempting the long and tedious task of securing its appeal.

Another influence which is silently working to enhance the advisability of unitization is the recognition of the new conception of ownership of oil and gas in place in several of the oil-producing states. The evolution of the law in this respect did not occur in an effort to defeat the capture theory, but grew out of the many cases bent upon determining what title, if any, a landowner has to minerals in place. Five of the oil states (California, Illinois, Kentucky, Louisiana, and Oklahoma) hold that on account of the migratory nature of oil and gas, there can be no such thing as ownership in place. Consequently, the owner of land has nothing more than the mere right to reduce such minerals to possession, with title passing only when possession is actually obtained. In contrast to this doctrine, it appears that 11 states (Texas, Arkansas, Indiana, Kansas, Ohio, Michigan, Montana, New Mexico, Pennsylvania, Tennessee and West Virginia) have adopted the ownership rule, either in whole or in part.

CAPTURE THEORY

What ultimate effect such recognition of rights to oil in place will have is not yet determined. It remains that regardless of the recognition given this right in the certain states mentioned, the capture theory still obtains, and this is primarily all the operator is concerned with today. However, as the slow transition of the law shapes its course, it is quite apparent that the capture theory is being replaced by the ownership in place theory, requiring some form of unit operation for its administration.

California, Kansas, Oklahoma, and other state courts have recognized for some time that the police powers of a state extend to the conservation of its natural resources, the principle generally resting upon the common law maxim that every person shall be required to so use his property as to not injure the rights of others. Also, it has been recognized that under this power they have the authority to regulate and prescribe methods for the extraction of oil and gas from a common pool, and may compel cooperative development on either of two basis: (1) To protect the public interest against waste of natural resources, and (2) to insure a just distribution of property between the various tennants in common. The majority of provisions contained in the various state proration laws have been predicated upon this legal principle.

The unconstitutionality of such laws was argued in early cases, but this matter has been set at rest through important U. S. Supreme Court decisions. Specific reference is made to the test of the California statute in the Bandini Petroleum Co. vs. Superior Court case, and the Champlin Oil & Refining Co. case from Oklahoma, both of which held the state proration laws valid, concluding that such legislation neither evades the constitutional prohibitions against taking of property without due process, denial of equal rights, or the taking of property without due compensation. The right always reserved in the leaseholder to receive a public hearing on regulations of this kind gives further protection along this line.

The most recent and all-inclusive state proration laws include the Oil and Gas Conservation Law of New Mexico (Chapter 72 of the 1935 Session Laws) and the Louisiana Minerals Conservation Law (Act 225 of the 1936 Biennial Session).

The unanimous opinions of all courts that such legislation may be properly enacted, and the increasing rigidity of the conservation laws, are focusing attention upon unit operation as a desirable means of development and production.

A consideration of this kind would not be complete without mentioning the possibilities of legislation which could and may be enacted to saddle some sort of cooperative production method upon the industry, if they do not take such steps themselves. Here again is provided a stimulus for voluntary unit control. This type of governmental regulation could hardly be encouraged, but its probability must be recognized in light of the three factors mentioned above, i.e., the desire to be freed from the economical effects of the rule of capture, trend in the recognition of ownership in place, and the enlarging scope of conservation laws of the various states.

Long discussions have been had regarding what sort of legislation might be passed to secure compulsory unitization. A specially appointed committee from the American Bar Association studied the question and concluded that . . . . "state or national legislation designed to compel operators to merge their properties in an operation unit would be unconstitutional, but under the police powers of the state it would be within their province to compel a reluctant minority to enter into such a cooperative agreement to operate their properties in accordance with whatever plan of exploitation the majority might elect."

ENGINEERING CONSIDERATIONS

Developments in the field of petroleum engineering which are focusing attention upon the desirability of unitization may be divided into three groups:

1. Advancements in scientific control, benefits from which can only be realized through some form of unit pool operation.
2. Increasingly accurate means of estimating petroleum reserves in place.
3. The provision of many first-hand examples of benefits thus far obtained through unit operation.

SCIENTIFIC CONTROL

The statement that scientific control of oil production has made many advancements in recent years needs no substantiation. The point that needs to be stressed is that the benefits from these advancements can only be partially realized when employed in any method of development short of complete cooperative endeavor.

Much money has been spent in the research and development of these engineering principles, and as producing companies look for a means of realizing the fullest return from such investments, it is quite apparent that their employment in unitized effort affords the best possibilities.

Every phase of scientific control developed by the petroleum engineers recognizes the fundamental fact that the pool, with its common boundaries, characteristics, source of origin and source of energy, affords the only correct productive unit. It follows that the maintenance of pressure, return of gas to the formation, economical well spacing, restraint of water encroachment, extension of flowing life, etc., all work for the common good of all operators in a given pool, and obviously no small group can afford to combine their efforts and resources for the benefit of all others. This fact,

coupled with the desire to produce the most oil at the lowest cost, brings forward the next logical step—that is, some form of cooperative control.

RESERVE ESTIMATIONS

There has been an appeal of long standing from the oil and gas lawyers and economists for improved and acceptable methods of estimating petroleum reserves, as increased ability along this line would contribute much to the facilitation of unit agreements, and remove probably the greatest obstacle to the extension of the practice. This appeal has not been entirely unanswered.

The vast study that has been devoted to physical and chemical characteristics of petroleum in place, and the reservoirs in which it is contained, has led to the development of methods for estimating reserves and pool possibilities with an increasing degree of accuracy. Most major companies have been quick to cooperate in the furtherance of these reservoir studies, and this fact alone accounts for a great deal of the progress that has been made. Influences from outside agencies should not be overlooked, however. The A.I.M.E. Stabilization Committee has done much to excite interest along this line, and the Petroleum Division of this Institute has led the field during the last year or two in reservoir research. The Research Committees of the A.P.I. have made worthy contributions to this work, and the efforts of the U. S. Bureau of Mines, and many universities, certainly cannot be ignored.

The inability of operators to agree upon a proper valuation for gas reserves has been a hinderance to the formation of some unitization contracts in the past. The reliable estimation of gas reserves is fast coming within the scope of engineering capabilities.

One proof that the progress in the estimation of petroleum reserves is being recognized is found in recent acknowledgments made from the legal profession and the law-making bodies of the various states. It is significant to note that the Supreme Court of the United States, in passing upon income tax laws, approve the determination by the commissioner of internal revenue of the amount of oil in place under particular tracts, thereby recognizing that the conclusions of the commissioner, when based on engineering advice, are something more than mere theory and speculation.

EXAMPLES

Unit operation has always been considered as a means to an end, and not an end in itself. The end has been to obtain the greatest recovery per acre-foot at the lowest cost per barrel. When it can be shown through many first-hand examples that this objective is being more nearly realized through unit control, this fact alone will serve as a great force in the extension of the practice.

There are now a large number of such excellent examples available. The appalling wastes indulged in during the development of the Little River pool makes a striking contrast to the orderly producing methods in the Lucien pool. Likewise the Maud and South Keokuk Falls pools furnish similar comparisons. A review of the economies effected by the unitization of the North dome of Kettleman Hills field of California, against the wastes suffered in the South and Middle domes, provides an outstanding comparison of the two methods of operation. The oil fields of Texas are spotted with splendid examples of conservation from unit operation on the one hand, and extravagance and waste on the other. The unitized block in the South Burbank pool, even after its first year's operation, shows definite indication of reduced operating costs, smaller material inventories, elimination of duplicated effort, together with the primary objective of increased ultimate recovery and extension of flowing life. Sixteen companies share in this unit, one of the largest number of participants to ever reach a unitary agreement.

Examples in contrast are often valuable in driving home a point. The Rodessa oil and gas field of Louisiana and Texas provides possibly the best present-day example of appalling waste, rapid declining pressure, abnormal dropping of potentials, a very short indicated flowing life in view of the gas energy originally available, and undoubtedly a loss of oil that might have otherwise been recovered under proper scientific control. Many now agree that when the final history of this field is written it will be another of those "that might have been." This structure, an aggravated case of a plunging faulted anticline, with updip gas accumulation, could not have been scientifically developed without some sort of cooperative control. It has been reliably estimated that as much as 600,000,000 feet of gas has been wasted here daily for many months, or about one-third of the entire domestic consumption of the United States.

Practically all large operating companies today have, in one form or another, a proration engineering department. The need for qualified men in this work is well recognized. Although their present duties do not approach any definite form of unitization, they have increased stabilization and equitable distribution of property rights as their objective, which is closely related to the purpose of unitization. An allocation program based on good engineering principles is an attempt to accomplish, between different landowners, what the management of a unitized pool would do in the interest of all participants.

ECONOMIC CONSIDERATIONS

As hereinbefore stated, there is no need to review the well established monetary savings which usually follow unit operation. Only the benefits which manifest themselves in the development and production of crude oil have been considered, however. Instances of increased efficiency and economy for all allied branches of the industry provide additional incentive for the more general adoption of cooperative production control. The sales division provides good ground for proof of this statement, although the benefits accruing to other divisions must not be overlooked.

At first though it would seem that the marketing or sales division of an integrated oil company would be the "paymaster" of profits to sustain many of the other operations. The regrettable fact is, however, that this is often not the case. In fact, a pressing problem of some sales executives has been to find a market for more and more gallonage, not at a profit for their department, but at a loss that will not be too great burden on the profits of the producing department, whose products its business is to move. In seeking the origin of this unsound economic situation, one is forced to admit the unwillingness or inability of producers to keep the production of crude within the limits of market demand. Having defined the "cause," and in looking for a "cure," unit operation provides a logical alternative.

Undoubtedly unit operation, and the resultant maintenance of pressure, return of gas to the formation, restraint of encroaching water, and other means of scientific control, means greater ultimate recovery, and this is truly an economic consideration. However, what about additional recovery by secondary producing methods only possible through unit operation? Certain of these methods have long proven practical, but the greatest hindrance to their use has been the inability to secure unitized effort. If this be true, the possibility of recovering a sizable portion of the remaining reserves cannot be overlooked. Also, if scientific methods of secondary recovery have advanced to such a point that they can now obtain additional recovery from some depleted fields, and the inability to secure unitized effort is the only thing hindering such procedure, surely this remaining barrier can be removed.

There are several other current forces which demand that the exploitation and production of oil be done in the most economical and thorough manner possible. As there forces continue to become pressing, unitization, with the many savings resulting therefrom, appears more attractive. Present operating methods under individual control may rightfully be said to be conducted in a reasonably efficient manner, but as the demands for decreased costs of production continue, unit operation offers the next resource. Some of these demanding forces include the present heavy production and corporation tax rates, competition from cheap flush oils from foreign fields in the world market, the growing recognition of the consumer's interest in oil, increased costs of deeper exploration and drilling necessary to keep proven reserves safely ahead of demand.

MAKES SQUEEZE AND PLUG-BACK JOBS EASIER, SURER AND MORE SUCCESSFUL—See Page 7

East Texas Fields

(Continued from Page 98)

3,722-26 feet, 20 bbls. in 20 minutes. Stanolind Oil & Gas Co. No. 7 Wooley, 3,536-66 feet, 45 bbls. in three hours, swabbing. Vaughn Production Co. No. 9 Alford, 3,826-28 feet, 72 bbls. per hour.

Cherokee County

Texas-Canadian Oil Co. No. 2 Cross, 3,680-81 feet, 25 bbls. per hour.

Smith County

Cosmic Development Co. No. 1 Wilson, dry and abandoned. Hanbury No. 10 Sharp, 3,719-20 feet, 10 bbls. per hour, swabbing. Petroleum Pipe Line & Storage Co. No. 3 Jackson, 3,832-33 feet, 20 bbls. in 15 minutes.

Upshur County

Looney & Singer No. 1 Shelton, 3,723-24 feet, 30 bbls. per hour. Nivla Oil Co. No. 5 Morgan, 3,722-25 feet, 20 bbls. per day on pump. E. L. Smith No. 12 Watts, 3,584-85 feet, 35 bbls. per hour. Stanolind and Falcon No. 15-B Williams, 3,701-08 feet, 10 bbls. in 45 minutes. United East & West Oil Co. No. 6 Shelton, 3,693-97 feet, 20 bbls. per hour.

EAST CENTRAL TEXAS COMPLETIONS

Anderson County

Cayuga Oil & Gas Co. No. 2 Hurt Heirs, 4,038-47 feet, estimated 15,000,000 to 20,000,000 feet of gas. C. E. Todd No. 1 W. T. Todd, dry and abandoned 2,392 feet.

Angelina County

T. H. Harris and others No. 2 fee, dry and abandoned 1,338 feet, 4½ miles northeast of Huntington.

Fannin County

Wilson and others No. 1 Hancock, dry and abandoned 669 feet, 1½ miles south of Trenton; No. 2 Hancock, dry and abandoned 606 feet, 1 mile south of Trenton.

Franklin County

Atex Oil Co. No. 1 Jaggers, 4,560 feet, dry and abandoned, elevation 398 feet, 6 miles east of Mount Vernon. Magnolia Petroleum Co. No. 2 Owings, 4,300 feet, 100 bbls. in 24 hours, on swab.

Titus County

Humble Oil & Refining Co. No. 2 Blackburn, 4,283 feet, 155 bbls. in 13 hours through one-quarter inch choke; No. 1 Fishback, 4,346 feet, 100 bbls. in 24 hours. Titus County Production Co. No. 19-A Talco Townsite, 4,354 feet, 5 bbls. per hour.

Summary of Operations, All Fields, September

SUMMARY OF ALL FIELDS

Wells Completed

	Comp.	Prod.	Dry	Gas
Penna. Grade fields	526	1,290	56	92
Lima	11	95	0	4
Central Ohio	40	254	10	21
Indiana	13	58	6	3
Illinois	5	262	1	0
Kentucky	47	1,975	8	3
Michigan	77	5,132	29	16
Kansas	133	87,208	34	10
Oklahoma	178	104,971	48	4
North Central Texas	246	22,876	103	5
West Texas	155	97,909	23	1
Texas Panhandle	45	23,130	0	7
East Texas	128	4,205	9	0
East Central Texas	41	4,033	9	0
East Texas border	23	13,901	2	1
Gulf Coast Texas	116	31,723	31	3
Southwest Texas	277	52,945	43	7
North Louisiana	45	9,483	9	12
Gulf Coast Louisiana	27	12,281	6	2
Arkansas	5	220	3	0
Mississippi	1	0	0	1
Montana	27	1,694	7	1
Wyoming	14	9,111	6	1
Colorado	2	709	1	0
New Mexico	51	44,884	5	1
Total September	2,233	530,349	449	195
Total Augus.*	2,095	442,352	365	209
Difference	138	87,997	84	14

*Revised.

Rigs and Wells Drilling

	Rigs	Drlg.	Ttl.
Penna. Grade fields	93	447	540
Lima	3	18	21
Central Ohio	23	80	103
Indiana	3	27	30
Kentucky	11	48	59
Illinois	1	4	5
Michigan	86	90	176
Kansas	41	269	310
Oklahoma	74	463	537
North Central Texas	68	221	289
West Texas	109	300	409
Texas Panhandle	26	115	141
East Texas	61	126	187
East Central Texas	45	60	105
East Texas border	17	50	67
Gulf Coast Texas	45	115	160
Southwest Texas	65	188	253
North Louisiana	31	111	142
Gulf Coast Louisiana	15	67	82
Arkansas	8	33	41
Mississippi	5	11	16
Alabama	0	1	1
Florida	1	4	5
Montana	8	56	64
Wyoming	7	58	65
Colorado	2	35	37
New Mexico	12	116	128
Utah	0	8	8
Total September	860	3,121	3,981
Total August	776	3,175	3,951
Difference	84	54	30

GULF COAST Texas

Summary of Field Operations

Field—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Ace	1	0	1	0	0	0	0
Amelia	4	504	0	0	2	2	4
Anahuac	11	6,417	0	0	4	6	10
Arriola	0	0	0	0	0	2	2
Batson	0	0	0	0	1	1	2
Big Creek	0	0	0	0	1	2	3
Blue Ridge	1	20	0	0	0	4	4
Boling	0	0	0	0	0	2	2
Clay Creek	3	103	1	1	1	1	2
Cleveland	0	0	0	0	0	1	1
Conroe	4	1,705	1	0	2	4	6
Cotton Lake	1	0	1	0	0	1	1
Damon Mound	0	0	0	0	1	2	3
Danbury	1	24	0	0	0	0	0
Dickinson	1	118	0	0	1	5	6
Esperson	3	50	2	0	1	1	2
Eureka	1	0	0	1	0	0	0
Fannett	1	10	0	0	0	1	1
Fairbanks	1	151	0	0	0	0	0
Five Corners	1	0	1	0	0	0	0
Greta	4	1,459	0	0	0	4	4
Greens Lake	0	0	0	0	0	1	1
Hankamer	0	0	0	0	0	1	2
Hastings	5	3,198	0	0	2	6	8
Hawkinsville	0	0	0	0	0	1	1
Heyser	3	312	1	0	1	3	4
Hughes	0	0	0	0	0	1	1
High Island	2	560	0	0	1	2	3
Hull	4	13	2	0	0	1	1
Livingston	1	336	0	0	0	0	0
Lockridge	0	0	0	0	0	1	1
Louise	2	300	0	0	1	1	2
Manvel	5	1,100	2	0	0	3	3
Nome	0	0	0	0	1	2	3
Mykawa	0	0	0	0	0	1	1
Old Ocean	1	203	0	0	0	0	0
Orchard	1	0	1	0	1	2	3
Orange	1	0	1	0	0	0	0
Pickett Rdg.	3	432	2	0	1	1	2
Pierce Jct.	1	185	0	0	0	1	1
Placedo	8	1,550	0	0	3	7	10
Raccoon Bend	3	816	0	0	0	2	2
Refugio	2	417	0	0	0	2	2
Shepherds Mott	2	0	2	0	0	0	0
South Houston	9	2,666	0	0	2	5	7
Splendora	1	0	1	0	0	0	0
Sugarland	1	0	1	0	0	0	0
Thompson	0	0	0	0	0	2	2
Tomball	8	3,672	1	1	0	3	3
Quintana-Oconnor	4	4,199	0	0	1	4	5
Turtle Bay	1	0	1	0	0	1	1
Van Vleck	2	843	0	0	0	1	1
W. Columbia	0	0	0	0	0	1	1
Withers	2	360	0	0	1	2	3
Misc.	9	0	9	0	14	16	30
Ttl. Sept.	116	31,723	31	3	45	115	160
Ttl. Aug.	118	35,226	20	4	28	136	164
Difference	2	3,503	11	1	17	21	4

Louisiana

Field—	Comp.	Prod.	Dry	Gas	Ags.	Dlg.	Ttl.
Bay St. Elaine	1	0	1	0	0	0	0
Big Lake	0	0	0	0	1	0	1
Black Bayou	1	0	0	1	0	1	1
Caillou Island	0	0	0	0	0	2	2
Cameron Meadows	1	0	1	0	1	1	2
Charenton	1	450	0	0	0	1	1
Darrow	0	0	0	0	0	1	1
Dog Lake	0	0	0	0	0	1	1
Garden Island	1	1,118	0	0	0	0	0
Gillis	5	2,747	0	0	2	6	8
Four Isle	0	0	0	0	0	1	1
Hackberry	1	679	0	0	2	4	6
Houma gas field	1	0	0	1	0	0	0
Jeanerette	1	344	0	0	1	1	2
Jennings	1	65	0	0	0	4	4
Lafitte	0	0	0	0	0	2	2
Lake Barre	0	0	0	0	0	2	2
Lake Hermitage	1	144	0	0	0	0	0
Lake Pelto	0	0	0	0	0	1	1
Leesville	3	5,061	0	0	1	2	3
New Iberia	0	0	0	0	2	6	8
Port Barre	0	0	0	0	1	2	3
Roanoke	1	300	0	0	0	1	1
St. Martinsville	1	0	1	0	0	1	1
Sorrento	0	0	0	0	0	1	1
Sulphur	1	720	0	0	0	1	1
Tepetate	3	653	0	0	0	5	5
Vinton	0	0	0	0	0	1	1
Misc.	3	0	3	0	4	19	23
Ttl. Sept.	27	12,281	6	2	15	67	82
Ttl. Aug.	37	10,265	14	1	15	61	76
Difference	10	2,016	8	1	0	6	6

KANSAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Barber	1	0	0	1	0	2	2
Barton	11	14,315	2	0	2	24	26
Butler	3	56	1	1	0	10	10
Chase	0	0	0	0	0	1	1
Clark	0	0	0	0	0	1	1
Coffey	0	0	0	0	0	3	3
Cowley	3	48	1	0	1	8	9
Decatur	0	0	0	0	1	0	1
Edwards	0	0	0	0	1	1	2
Ellis	7	5,857	3	0	4	31	35
Ellsworth	4	3,786	0	0	0	7	7
Finney	0	0	0	0	0	1	1
Graham	0	0	0	0	1	1	2
Grant	0	0	0	0	0	2	2
Greenwood	5	110	3	0	1	9	10
Harvey	2	911	0	1	0	4	4
Haskell	1	0	0	1	0	1	1
Kearny	0	0	0	0	0	1	1
Kingman	0	0	0	1	0	2	2
Lincoln	0	0	0	0	1	0	1
Lyon	1	0	1	0	0	0	0
Marion	1	0	1	0	0	3	3
McPherson	6	1,998	3	0	3	14	17
Meade	0	0	0	0	1	0	1
Morton	1	0	0	1	0	0	0
Ness	1	684	0	0	0	2	2
Pawnee	1	0	1	0	0	1	1
Pratt	0	0	0	0	0	2	2
Reno	18	9,828	4	0	8	20	28
Rice	24	23,085	4	0	4	32	36
Rooks	0	0	0	0	0	6	6
Rush	1	1,470	0	0	0	7	7
Russell	17	18,515	3	0	5	38	43
Saline	0	0	0	0	1	1	2
Scott	0	0	0	0	0	1	1
Sedgwick	1	0	1	0	0	4	4
Sheridan	0	0	0	0	1	0	1
Stafford	4	2,476	1	0	0	8	8
Stevens	4	0	0	4	0	0	0
Smith	0	0	0	0	1	0	1
Sumner	6	2,973	1	0	3	10	13
Trego	1	0	1	0	1	4	5
Woodson	9	1,096	3	0	1	7	8
Ttl. Sept.	133	87,208	34	10	41	269	310
Ttl. Aug.	139	60,450	44	4	41	305	346
Difference	6	26,758	10	6	0	36	36

OKLAHOMA

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Atoka	0	0	0	0	0	4	4
Beckham	1	0	1	0	0	4	4
Caddo	1	0	1	0	2	6	8
Carter	7	323	2	0	2	18	21
Cleveland	3	5,717	2	0	4	6	10
Coal	1	0	1	0	0	9	9
Comanche	0	0	0	0	1	7	8
Cotton	0	0	0	0	0	3	3
Creek	11	2,219	3	0	4	30	34
Garfield	1	0	1	0	0	1	1
Garvin	1	672	0	0	1	8	9
Grady	1	12	0	0	1	4	5
Grant	0	0	0	0	0	1	1
Greer	0	0	0	0	0	1	1
Harmon	0	0	0	0	0	1	1
Hughes	5	232	2	0	2	12	14
Jackson	2	661	1	0	1	8	9
Jefferson	2	15	0	0	0	4	4
Johnston	0	0	0	0	0	1	1
Kay	0	0	0	0	0	10	10
Kiowa	5	22	2	0	0	13	13
LeFlore	0	0	0	0	0	2	2
Lincoln	0	0	0	0	0	4	4
Logan	1	11,027	0	0	3	12	15
Love	0	0	0	0	0	3	3
Marshall	0	0	0	0	0	5	5
McCurtain	1	0	1	0	0	0	0
McIntosh	0	0	0	0	0	3	3
Murray	0	0	0	0	1	2	3
Muskogee	3	30	2	0	2	4	6
Noble	4	799	2	0	1	3	4
Okfuskee	16	2,322	2	1	4	14	18
Oklahoma	15	30,345	2	0	5	27	32
Okmulgee	8	68	4	0	3	35	38
Osage	26	9,332	4	1	5	24	29
Pawnee	0	0	0	0	2	5	7
Payne	1	0	1	0	0	2	2
Pittsburg	0	0	0	0	0	3	3
Pontotoc	29	37,656	1	0	15	73	88
Pottawatomie	3	222	0	0	6	20	26
Pushmataha	0	0	0	0	0	1	1
Seminole	24	3,205	9	2	5	36	41
Stephens	3	72	1	0	2	13	15
Tillman	2	0	2	0	0	4	4
Texas	0	0	0	0	0	1	1
Tulsa	1	0	1	0	1	11	12
Wagoner	0	0	0	0	1	4	5
Washita	0	0	0	0	0	1	1
Ttl. Sept.	178	104,971	48	4	74	463	537
Ttl. Aug.	242	115,012	51	13	82	495	577
Difference	64	10,041	3	9	8	32	40

NORTH LOUISIANA

Summary of Field Operations

Parish—	Comp.	Prod.	Dry	Gas*	Rgs.	Dlg.	Ttl.
Bienville	0	0	0	0	1	3	4
Bossier	9	70	2	1	1	5	6
Caddo-Rodessa	11	8,948	0	0	9	34	43
Caddo-Other	5	170	1	0	7	16	23
Caldwell	0	0	0	0	0	2	2
Catahoula	0	0	0	0	0	1	1
Claiborne	0	0	0	0	0	4	4
Concordia	0	0	0	0	0	1	1
DeSoto	3	220	1	0	1	5	6
Franklin	0	0	0	0	0	1	1
Grant	3	75	2	0	3	3	6
Jackson	0	0	0	0	1	1	2
LaSalle	1	0	1	0	0	2	2
Lincoln	0	0	0	0	0	1	1
Morehouse	5	0	0	5	2	2	4
Nat'hitoch's	0	0	0	0	1	2	3
Red River	0	0	0	0	0	3	3
Richland	0	0	0	0	0	2	2
Sabine	2	0	2	0	1	9	10
Tensas	0	0	0	0	0	2	2
Union	5	0	0	5	1	4	5
Webster	1	0	0	1	3	7	10
W. Carroll	0	0	0	0	0	1	1
Ttl. Sept.	45	9,483	9	12	31	111	142
Ttl. Aug.	53	17,912	6	11	26	109	135
Difference	8	8,429	3	1	5	2	7

*Gas production: Bossier, 4,000,000; Morehouse, 45,000,000; Webster, 70,000,000; Union, 37,500,000.

Rodessa wells gauged by making 1-hour flow through one-quarter to one-half inch tubing choke, and multiplying by 24.

ARKANSAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Arkansas	0	0	0	0	1	0	1
Bradley	0	0	0	0	0	0	0
Calhoun	0	0	0	0	0	1	1
Clark	0	0	0	0	0	1	1
Cleveland	0	0	0	0	2	1	3
Columbia	0	0	0	0	0	2	2
Crawford	0	0	0	0	0	1	1
Dallas	0	0	0	0	0	2	2
Hempstead	0	0	0	0	1	5	6
LaFayette	0	0	0	0	1	0	1
Lit. River	0	0	0	0	0	2	2
Lonoke	0	0	0	0	1	1	2
Miller	1	0	1	0	0	4	4
Nevada	0	0	0	0	0	2	2
Ouchita	2	70	1	0	0	6	6
Pulaski	0	0	0	0	0	1	1
Union	2	150	1	0	2	4	6
Ttl. Sept.	5	220	3	0	8	33	41
Ttl. Aug.	9	0	8	1	7	29	36
Difference	4	220	5	1	1	4	5

ALABAMA

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Houston	0	0	0	0	0	1	1
Ttl. Sept.	0	0	0	0	0	1	1
Ttl. Aug.	0	0	0	0	0	1	0

MISSISSIPPI

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas*	Rgs.	Dlg.	Ttl.
Hinds	1	0	0	1	1	0	1
LaFayette	0	0	0	0	0	1	1
Bolivar	0	0	0	0	0	1	1
Washingt'n	0	0	0	0	0	1	1
Lauderdale	0	0	0	0	0	1	1
Simpson	0	0	0	0	1	0	1
Smith	0	0	0	0	0	1	1
Claiborne	0	0	0	0	0	1	1
Jones	0	0	0	0	0	1	1
Grenada	0	0	0	0	1	0	1
Lamar	0	0	0	0	0	2	2
Harrison	0	0	0	0	0	1	1
Yalobusha	0	0	0	0	1	0	1
Wilkinson	0	0	0	0	0	1	1
Kemper	0	0	0	0	1	0	1
Ttl. Sept.	1	0	0	1	5	11	16
Ttl. Aug.	2	0	1	1	6	9	15
Difference	1	0	1	0	1	2	1

*Gas production: Hinds County, 50,000,000.

EAST TEXAS (Border Counties)

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas*	Rgs.	Dlg.	Ttl.
Bowie	0	0	0	0	4	4	4
Cass	21	13,871	2	0	17	30	47
Harrison	1	30	0	0	0	5	5
Panola	0	0	0	0	0	6	6
Sabine	0	0	0	0	0	1	1
Shelby	1	0	0	1	0	4	4
Ttl. Sept.	23	13,901	2	1	17	50	67
Ttl. Aug.	11	10,356	0	0	8	58	66
Difference	12	3,545	2	1	9	8	1

*Gas production: Shelby County, 15,000,000.

Rodessa wells in Cass County gauged by making 1-hour flow through one-quarter to one-half inch tubing choke, and multiplying by 24.

FLORIDA

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Polk	0	0	0	0	1	0	1
Lake	0	0	0	0	0	2	2
Nassau	0	0	0	0	0	1	1
Hillsb'rou'h	0	0	0	0	0	1	1
Ttl. Sept.	0	0	0	0	1	4	5
Ttl. Aug.	0	0	0	0	0	4	4
Difference	0	0	0	0	1	0	1

WEST TEXAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Andrews	1	445	0	0	2	4	6
Borden	0	0	0	0	0	1	1
Brewster	0	0	0	0	0	3	3
Concho	0	1	0	1	0	0	0
Crane	6	4,692	0	0	4	21	25
Cochran	0	0	0	0	0	1	1
Crockett	0	0	0	0	0	1	1
Dawson	0	0	0	0	0	1	1
Ector	9	4,332	1	0	7	21	28
El Paso	0	0	0	0	0	1	1
Fisher	2	182	0	0	2	6	8
Gaines	1	0	1	0	0	2	2
Garza	0	0	0	0	0	2	2
Glasscock	0	0	0	0	0	3	3
Hockley	0	0	0	0	0	1	1
Howard	15	7,089	0	0	5	12	17
Hudspeth	0	0	0	0	0	1	1
Jeff Davis	0	0	0	0	1	1	2
Jones	8	254	6	0	9	16	25
Kimble	0	0	0	0	1	1	2
Loving	0	0	0	0	0	1	1
Pecos	14	5,553	4	0	10	35	45
Presidio	0	0	0	0	0	1	1
Runnels	1	0	1	0	0	0	0
Schleicher	0	0	0	0	1	1	2
Scurry	0	0	0	0	0	2	2
Taylor	1	0	1	0	1	2	3
Terrell	0	0	0	0	1	0	1
Terry	0	0	0	0	0	2	2
Tom Green	0	0	0	0	1	1	2
Upton	23	12,260	6	0	11	26	37
Ward	35	28,627	1	1	18	64	82
Winkler	37	34,475	0	0	34	66	100
Yoakum	1	0	1	0	1	0	1
Ttl. Sept.	155	97,909	23	1	109	300	409
Ttl. Aug.	136	66,054	16	4	75	298	373
Difference	19	31,855	7	3	34	2	36

SOUTHWEST TEXAS

Summary of Field Operations

Field—	Comp.	Prod.	Abd.	Gas	Rgs.	Dlg.	Ttl.
Auga Dulce	0	0	0	0	1	2	3
Alta Mesa	1	75	0	0	0	0	0
Alta Verde	1	0	1	0	0	1	1
Bentonville	5	490	0	2	0	2	2
Calliham	8	345	1	1	0	2	2
Car.-Tex.	0	0	0	0	0	1	1
C. Driscoll	3	295	1	0	0	3	3
Clark	0	0	0	0	0	1	1
Cole	0	0	0	0	1	0	1
Colorado	1	100	0	0	0	1	1
Darst Cre'k	0	0	0	0	0	1	1
Driscoll	1	185	0	0	1	0	1
El Mesquite	0	0	0	0	0	1	1
Escobas	2	25	1	0	1	1	2
Flour Bluff	1	150	0	0	4	2	6
Gov. Wells	1	60	0	0	1	1	2
Haynes	21	740	1	0	3	5	8
Hoffman	5	455	0	1	0	2	2
Kohler	0	0	0	0	1	0	1
Labbe	0	0	0	0	0	1	1
La Sal Vieja	1	230	0	0	1	0	1
Laurel	1	0	1	0	0	0	0
L'ma Novia	32	7,460	1	0	2	9	11
Loma Vista	0	0	0	0	1	1	2
Lopez	31	11,735	3	0	2	7	9
Lucas	1	0	1	0	0	1	1
Lm. Springs	0	0	0	0	0	1	1

Margo	6	0	0	0	0	1	1
M'Campbell	1	319	0	0	0	0	0
Mercedes	1	0	1	0	1	2	3
Mestanas	0	0	0	0	0	1	1
N. Pettus	4	305	1	0	1	1	2
Oakville	1	0	0	1	0	0	0
O'Hern	11	2,945	0	0	1	2	3
Palangana	1	1,200	0	0	0	0	0
Pearsall	0	0	0	0	0	1	1
Peters	2	0	1	1	1	1	2
Piedra Lumbre	2	320	0	0	0	0	0
Plummer	0	0	0	0	0	1	1
Plymouth	12	1,645	0	0	1	6	7
Rio Grande City	1	0	1	0	1	3	4
Salt Flats	0	0	0	0	0	2	2
Samfordyce	5	580	1	0	2	5	7
Santo Domingo	1	0	0	1	0	0	0
Saxet	44	7,680	3	0	9	25	34
Saxet Heights	21	3,670	0	0	6	8	14
Seven Sisters	22	10,860	1	0	2	9	11
Taft	3	690	0	0	1	4	5
Voss	3	245	0	0	1	1	2
White Point	0	0	0	0	0	1	1
Zoborowski	2	140	0	0	0	0	0
Misc.	23	0	23	0	19	68	87
Ttl. Sept.	277	52,945	43	7	65	188	253
Ttl. Aug.	209	38,450	29	13	43	203	246
Difference	68	14,495	14	6	22	15	7

EAST CENTRAL AND EAST TEXAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Anderson	5	306	1	0	3	8	11
Angelina	1	0	1	0	2	4	6
Bowie	0	6	0	0	0	4	4
Cherokee	0	0	0	0	0	1	1
Falls	0	0	0	0	0	1	1
Fannin	2	0	2	0	1	2	3
Franklin	5	575	0	0	4	5	9
Freestone	0	0	0	0	1	2	3
Gregg	65	2,125	4	0	38	52	90
Henderson	2	158	1	0	2	2	4
Hill	0	0	0	0	0	1	1
Hopkins	0	0	0	0	0	1	1
Hunt	0	0	0	0	1	0	1
Kaufman	0	0	0	0	0	1	1
Lamar	1	0	0	0	1	2	3
Limestone	1	0	1	0	0	0	0
McLennan	1	0	1	0	0	0	0
Nacogdoches	0	0	0	0	1	1	2
Navarro	0	0	0	0	1	4	5
Red River	1	0	1	0	0	5	5
Rockwall	0	0	0	0	0	1	1
Rusk	43	1,578	3	0	10	31	41
Smith	9	320	0	0	3	13	16
Titus	21	2,935	1	0	26	15	41
Upshur	11	182	2	0	10	29	39
Van Zandt	2	59	0	0	1	1	2
Wood	0	0	0	0	1	0	1
Ttl. Sept.	169	8,238	18	0	106	186	292
Ttl. Aug.	240	15,073	20	0	96	157	253
Difference	71	6,835	2	0	10	29	39

CENTRAL AND N. CEN. TEXAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Archer	37	1,515	22	0	6	11	17
Baylor	6	230	3	0	0	2	2
Brown	3	60	1	0	1	3	4
Callahan	8	10	4	3	1	9	10
Clay	5	2	2	0	3	1	4
Coleman	1	50	0	0	0	6	6
Comanche	1	0	1	0	0	3	3
Collin	0	0	0	0	3	3	5
Cooke	54	15,396	12	0	16	48	64
Denton	1	0	1	0	0	3	3
Eastland	0	0	0	0	2	9	11
Erath	0	0	0	0	1	2	3
Foard	0	0	0	0	0	1	1
Grayson	2	0	2	0	1	1	2
Hamilton	0	0	0	0	0	2	2
Jack	15	1,848	4	0	8	22	30
Johnson	0	0	0	0	0	1	1
McCulloch	1	0	1	0	0	1	1
Montague	12	181	4	1	6	8	14
Palo Pinto	0	0	0	0	0	2	2
Parker	0	0	0	0	0	1	1
Shackelford	24	1,668	7	0	2	29	31
Stephens	3	2	1	1	0	2	2
Throckmorton	0	0	0	0	1	0	1
Wichita	21	333	10	0	4	14	18
Wilbarger	3	393	1	0	0	3	3
Wise	0	0	0	0	0	1	1
Young	51	1,188	27	0	14	33	47
Ttl. Sept.	246	22,876	103	5	68	221	289
Ttl. Aug.	121	8,943	56	2	47	205	252
Difference	125	13,933	47	3	21	16	37

PANHANDLE

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Briscoe	0	0	0	0	0	1	1
Carson	5	2,076	0	2	2	14	16
Childress	0	0	0	0	1	0	1
Gray	11	8,453	0	0	5	40	45
Hansford	0	0	0	0	0	1	1
Hartley	0	0	0	0	0	1	1
Hutchinson	17	10,137	0	0	10	33	43
Moore	5	622	0	3	2	11	13
Ochiltree	0	0	0	0	1	0	1
Potter	0	0	0	0	1	0	1
Roberts	0	0	0	0	0	1	1
Wheeler	7	1,842	0	2	4	13	17
Ttl. Sept.	45	23,130	0	7	26	115	141
Ttl. Aug.	48	16,952	3	10	35	140	175
Difference	3	6,178	3	3	9	25	34

ROCKY MOUNTAIN AREA

New Mexico

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Bernalillo	0	0	0	0	0	2	2
McKinley	1	0	1	0	0	6	6
Rio Arriba	0	0	0	0	1	0	1
Santa Fe	0	0	0	0	0	2	2
San Juan	1	0	1	0	1	6	7
Torrance	0	0	0	0	0	1	1
Valencia	0	0	0	0	0	2	2
Lea	45	44,747	2	1	10	82	92
Eddy	2	130	1	0	0	10	10
Chaves	1	7	0	0	0	0	0
Union	0	0	0	0	0	1	1
Harding	0	0	0	0	0	2	2
DeBaca	0	0	0	0	0	1	1
Roosevelt	0	0	0	0	0	1	1
Ttl. Sept.	51	44,884	5	1	12	116	128
Ttl. Aug.	46	31,525	5	0	16	110	126
Difference	5	13,359	0	1	4	6	2

Montana

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Big Horn	1	0	0	1	0	2	2
Carbon	0	0	0	0	0	4	4
Fallon	0	0	0	0	1	1	2
Fergus	0	0	0	0	0	4	4
Glacier	14	1,109	4	0	5	12	17
Petroleum	1	0	1	0	0	3	3
Phillips	0	0	0	0	0	3	3
Pondera	0	0	0	0	1	2	3
Toole	11	585	2	0	1	18	19
Misc.	0	0	0	0	0	7	7
Ttl. Sept.	27	1,694	7	1	8	56	64
Ttl. Aug.	28	1,689	8	4	1	66	67
Difference	1	5	1	3	7	10	3

Utah

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Ttl. Sept.	0	0	0	0	0	8	8
Ttl. Aug.	0	0	0	0	0	8	8
Difference	0	0	0	0	0	0	0

Wyoming

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Albany	1	120	0	0	0	4	4
Big Horn	2	1,557	0	0	2	9	11
Carbon	2	2,160	1	0	0	5	5
Converse	0	0	0	0	0	3	3
Fremont	1	5	0	0	0	3	3
H. Springs	0	0	0	0	0	3	3
Lincoln	0	0	0	0	1	2	3
Niobrara	2	5,233	1	0	2	11	13
Park	0	0	0	0	1	2	3
Sweetwater	1	0	0	1	1	0	1
Uinta	0	0	0	0	0	3	3
Washakie	2	0	2	0	0	6	6
Weston	3	36	2	0	0	2	2
Misc.	0	0	0	0	0	5	5
Ttl. Sept.	14	9,111	6	1	7	58	65
Ttl. Aug.	16	7,812	4	0	8	61	69
Difference	2	1,299	2	1	1	3	4

Colorado

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Adams	0	0	0	0	0	2	2
Archuleta	1	709	0	0	1	6	7
Boulder	0	0	0	0	0	2	2
La Plata	0	0	0	0	0	2	2
Larimer	0	0	0	0	0	2	2
Moffat	0	0	0	0	1	4	5
Park	0	0	0	0	0	3	3
Washington	0	0	0	0	0	1	1
Weld	0	0	0	0	0	1	1
Yuma	1	0	1	0	0	0	0
Misc.	0	0	0	0	0	12	12
Ttl. Sept.	2	709	1	0	2	35	37
Ttl. Aug.	3	110	2	0	3	32	35
Difference	1	599	1	0	1	3	2

EASTERN FIELDS

Summary of Field Operations

Field—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Bradford	*184	199	0	0	7	73	80
Allegany	*97	68	0	0	1	29	30
Venango-Clarion	44	95	1	3	3	13	16
Butler-Armst'ng	10	16	5	0	2	7	9
S.W. Penna.	21	276	4	9	11	39	50
S.E. Ohio	72	497	28	19	14	78	92
W. Va.	98	139	18	61	55	208	263
Ttl. Sept.	526	1,290	56	92	93	447	540
Ttl. Aug.	458	973	37	77	110	390	500
Difference	68	317	19	15	17	57	40

*Includes wells for water-flooding.

MICHIGAN

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Alcona	0	0	0	0	1	0	1
Allegan	0	0	0	0	1	0	1
Alpena	0	0	0	0	1	1	2
Arenac	0	0	0	0	4	1	5
Chippewa	0	0	0	0	0	1	1
Clare	1	0	1	0	0	0	0
Clinton	1	0	1	0	0	2	2
Gladwin	3	215	1	0	2	5	7
Gratiot	7	0	2	5	2	7	9
Hillsdale	0	0	0	0	0	1	1
Iosco	0	0	0	0	0	1	1
Ingham	0	0	0	0	1	1	2
Ionia	0	0	0	0	1	1	2
Isabella	10	1,880	6	0	9	9	18
Kent	0	0	0	0	1	1	2
Lapeer	1	0	1	0	2	0	2
Lenawee	0	0	0	0	1	3	4
Livingston	0	0	0	0	2	0	2
Mackinac	0	0	0	0	0	1	1
Macomb	1	0	1	0	0	0	0
Manistee	0	0	0	0	0	2	2
Mason	2	0	2	0	2	0	2
Mecosta	7	0	2	5	1	7	8
Midland	18	1,566	4	0	13	8	21
Missaukee	0	0	0	0	1	0	1
Monroe	0	0	0	0	3	1	4
Montcalm	15	771	5	4	17	16	33
Muskegon	1	0	0	1	1	1	2
Oceana	0	0	0	0	3	0	3
Ogemaw	6	675	0	1	8	16	24
Osceola	0	0	0	0	0	1	1
Otsego	0	0	0	0	0	1	1
Roscommon	0	0	0	0	1	0	1
Saginaw	2	25	1	0	4	0	4
St. Clair	0	0	0	0	2	1	3
St. Joseph	0	0	0	0	1	0	1
Shiawassee	1	0	1	0	1	0	9
Tuscola	1	0	1	0	0	0	1
Wayne	0	0	0	0	0	1	1
Ttl. Sept.	77	5,132	29	16	86	90	176
Ttl. Aug.	56	3,629	16	19	84	110	194
Difference	21	1,503	13	3	2	20	18

LIMA FIELD

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Allen	0	0	0	0	0	1	1
Darke	0	0	0	0	0	1	1
Fulton	2	5	0	1	1	2	3
Hardin	2	10	0	1	1	1	2
Putnam	2	28	0	0	0	2	2
Lucas	0	0	0	0	0	1	1
Seneca	1	0	0	1	0	4	4
Vanwert	1	0	0	1	0	0	0
Wood	1	35	0	0	0	3	3
Wyandot	2	17	0	0	1	3	4
Ttl. Sept.	11	95	0	4	3	18	21
Ttl. Aug.	13	49	0	5	4	23	27
Difference	2	46	0	1	1	5	6

CENTRAL OHIO

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Hocking	1	0	0	1	0	2	2
Ashland	2	0	1	1	3	8	11
Coshocton	4	214	0	1	0	4	4
Cuyahoga	0	0	0	0	1	2	3
Delaware	0	0	0	0	0	1	1
Fairfield	1	0	0	1	0	2	2
Gallia	1	0	0	1	0	1	1
Harrison	0	0	0	0	0	1	1
Holmes	4	0	2	2	3	11	14
Lawrence	0	0	0	0	0	1	1
Lorain	2	0	1	1	1	5	6
Morgan	3	5	0	1	3	6	9
Perry	9	35	2	3	4	6	10
Portage	1	0	1	0	0	0	0
Richland	2	0	1	1	0	3	3
Scioto	1	0	0	1	0	1	1
Stark	4	0	0	4	4	14	18
Summit	2	0	0	2	0	2	2
Tuscarawas	0	0	0	0	2	5	7
Wayne	3	0	2	1	2	5	7
Ttl. Sept.	40	254	10	21	23	80	103
Ttl. Aug.	43	53	9	29	27	93	120
Difference	3	201	1	8	4	13	17

INDIANA

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Daviess	3	0	3	0	0	3	3
Decatur	0	0	0	0	0	2	2
Gibson	0	0	0	0	0	2	2
Johnson	0	0	0	0	0	1	1
Hancock	0	0	0	0	0	1	1
Harrison	0	0	0	0	0	2	2
Knox	1	10	0	0	1	2	3
Perry	1	30	0	0	1	5	6
Pike	4	18	0	2	1	3	4
Posey	1	0	1	0	0	1	1
Shelby	1	0	0	1	0	0	0
Sullivan	1	0	1	0	0	1	1
Spencer	1	0	1	0	0	1	1
Vand'rbu'gh	0	0	0	0	0	2	2
Vigo	0	0	0	0	0	1	1
Ttl. Sept.	13	58	6	3	3	27	30
Ttl. Aug.	30	85	13	10	4	27	31
Difference	17	27	7	7	1	0	1

ILLINOIS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
McDonough	2	12	0	0	0	0	0
Clinton	3	250	1	0	1	2	3
Edwards	0	0	0	0	0	1	1
Washington	0	0	0	0	0	1	1
Ttl. Sept.	5	262	1	0	1	4	5
Ttl. Aug.	1	200	0	0	2	4	6
Difference	4	62	1	0	1	0	1

KENTUCKY

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Ohio	19	463	6	0	3	16	19
McLean	25	1,500	1	2	8	32	40
Henderson	2	12	1	0	0	0	0
Hancock	1	0	0	1	0	0	0
Ttl. Sept.	47	1,975	8	3	11	48	59
Ttl. Aug.	35	1,734	9	1	3	27	30
Difference	12	241	1	2	8	21	29

Canadian Fields

(Continued from Page 93)

ty, south of Georgian Bay, Nottawa Oil & Gas Co. No. 11, Lot 5, Concession 11, finished in the Trenton limestone at 1,428 feet with 70,000 feet a day. Nottawa No. 12, Lot 6, Concession 11, is below 1,000 feet. The Nottawa company has been drilling in this area since early in 1936, bringing in a succession of small producers. It is laying 2-inch gas mains to serve the adjacent village of Hepworth, and is planning to extend the line later to Shallow Lake.

In Beverly Township, Wentworth County, Rockton Oil & Gas Co. No. 2, Lot 30, Concession 4, is rigging up a National outfit to deepen from 3,335 feet.

Near Acton, in Wellington County, Tony Seynuck No. 1 is sidetracking lost bit at 4,200 feet.

Turner Valley Field

In the Turner Valley field, southern Alberta, three west-side tests are drilling in the Madison limestone. Renfrew Royalties No. 1 Morris & Goodfellow, LSD 3, section 28-18-2w5, is below 6,325 feet, more than 320 feet in the limestone with considerable wet gas, and is believed near the first porous horizon. Farther south, Sovereign Royalties No. 1 Myers & Wright, LSD 14, section 21-18-2w5, is below 5,845 feet. It got the Madison at 5,792 feet and cemented casing at 5,810 feet.

In the same section, Foundation Royalties No. 1, LSD 5, got Madison at 6,018 feet and cemented 6-inch casing at 6,039 feet.

In section 28-18-2w5, British Dominion Oil & Development Corp. No. 4, LSD 6, has cleaned out following a shot of 400 quarts in the lime and is testing production with indications of an increased wet gas flow. The previous naphtha recovery was between 75 and 100 bbls. a day. B. & B. Co. No. 1, LSD 12, same section, offsetting Turner Valley Royalties No. 1 to the south, is below 3,625 feet. Richfield Royalties No. 1, LSD 5, same section, is building steel derrick for rotary outfit to resume from 4,010 feet.

Sterling Pacific No. 3, LSD 13, section 33-18-2w5, is below 5,693 feet. Sterling Pacific No. 4, LSD 4, same section, is below 3,492 feet.

High River-Aldersyde

In the High River area east of Turner Valley, Arca Development Corp. No. 1, NW quarter section 24-18-1w5, is below 7,070 feet. It is now the deepest well in Canada outside the Turner Valley field, where McLeod Oil Co. No. 4 at 7,775 feet was the only well to attain greater depth.

Border Fields

On the Del Bonita structure south of Lethbridge, Sunshine Oils No. 1, LSD 10, section 19-1-21w4, is drilling in after setting casing on top of the Sunburst sand at 4,790 feet. If it fails to get commercial production in the Sunburst, the well will be continued to test the Madison limestone. Terminal Oil Co. No. 1, a mile southeast, encountered good showings in both horizons.

W. A. May, pipe line scout and assistant superintendent for the Texas Pipe Line Company, has been promoted to superintendent and moved to Corpus, Christi, Tex.

WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status:
Shell Oil Co., No. 16 Capitan, Santa Barbara Co.	32- 5-30	2,360	rig. to pump
Shell Oil Co., No. 19 Capitan, Santa Barbara Co.	32- 5-30	819	sd. sh. drlg.
General Pet. Corp., No. 19 Capitan, Santa Barbara Co.	32- 5-30	1,450	pump. 215 b.d.
General Pet. Corp., No. 20 Capitan, Santa Barbara Co.	32- 5-30	1,130	sd. sh. drlg.
Texas Co., No. 1 Capitan, Santa Barbara Co.	1- 4-31	1,103	dry; abd.
Barnsdall-Rio Grande, No. 2 Elwood, Santa Barbara	15- 4-29	6,492	P.B. 2,124
Signal Oil Co., No. 8 Elwood, Santa Barbara Co.	tideland	2,897	sd. sh. drlg.
Bush Oil Co., No. 3 Santa Maria, Santa Barbara Co.	30-10-33	1,797	sd. sh. drlg.
Field Gasoline Corp., No. 1 Santa Maria, S. Barbara	21- 9-33	2,840	cmtd. 2,800
Apache Oil Co., No. 1 Santa Maria, Santa Barbara	31- 9-33	4,276	hd. sh. drlg.
Macrate, A. N., No. 1 Santa Maria, Santa Barbara Co.	23-10-34	1,597	sd. sh. drlg.
Union Oil Co. No. 11 Orcutt, Santa Barbara Co.	26- 9-34	4,083	cleaning out
Union Oil Co., No. 16 Orcutt, Santa Barbara Co.	26- 9-34	1,653	sd. sh. drlg.
Todos Santos Oil Co., No. 1 Casmalia, Santa Barbara	29- 9-34	2,364	cmtd.
Petrol Corp., No. 1 Los Alamos, Santa Barbara Co.	9- 8-32	....	spudding
Moore, Inc., No. 1 Santa Maria, Santa Barbara Co.	25-10-35	7,476	gr. sh. drlg.
Top Row Oil Co., No. 1 Lompoc, Santa Barbara Co.	10- 6-35	1,105	cmtd.
Rio Grande Oil Co., No. 1 Mesa, Santa Barbara Co.	28- 4-27	2,015	to deepen
Bankline Oil Co., No. 1 Coal Oil Pt., Santa Barbara	tideland	5,510	P.B. 4,187
Calkan Pet. Co., No. 1 Sespe, Ventura Co.	23- 5-20	493	cmtd. 455
Union Oil Co., No. 10 Bardsdale, Ventura Co.	12- 3-20	6,561	cleaning out
Merchants Pet. Co., No. 7 Sespe, Ventura Co.	1- 4-20	140	redrlg. 95
Texas Co., No. 131 Shiells, Ventura Co.	4- 3-19	3,965	O.S. drlg.
El Rancho Oil Co., No. 1 Sespe, Ventura Co.	9- 3-19	4,990	swab. wtr.
Condor Oil Co., No. 1 Sespe, Ventura Co.	6- 4-19	1,365	redrlg. 1,360
Topa Topa Oil Co., No. 1 Sespe, Ventura Co.	33- 5-19	2,205	cleaning out
Wasibi Oil Co., No. 1 Sespe, Ventura Co.	33- 5-19	998	cleaning out
Oil Ridge Oil Co., No. 1 Hopper Canyon, Ventura Co.	6- 4-18	2,772	will cmt.
Bolsa Chica Oil Co., No. 4 Temescal, Ventura Co.	4- 4-18	3,176	O.S. drlg.
Pacific Western Oil Co., No. 6 Temescal, Ventura Co.	3- 4-18	1,920	hd. sh. drlg.
Sunset Oil Co., No. 1 Temescal, Ventura Co.	21- 4-18	2,687	gr. sd. drlg.
Rennie Bros., No. 1 Santa Paula, Ventura Co.	21- 4-21	1,040	bailing
Munding, J. J., No. 1 Ojai, Ventura Co.	22- 4-22	998	br. sh. drlg.
Ventura Expl. Co., No. 1 Saticoy, Ventura Co.	30- 3-22	9,525	swab. water
Vaca Oil Co., No. 1 Oxnard, Ventura Co.	5- 1-21	2,822	tar sand
General Pet. Corp., No. 1 Padre Canyon, Ventura Co.	15- 3-24	3,760	hd. sh. drlg.
Continental Oil Co., No. 2 Padre Canyon, Ventura Co.	15- 3-24	5,759	P.B. 5,700
Honolulu Oil Corp., No. 1 South Mountain, Ventura	23- 3-21	4,698	gr. sd. drlg.
Associated Oil Co., No. 12 McGonigh, Ventura Co.	23- 3-23	9,068	hd. sd. drlg.
Associated Oil Co., No. 25 V.L.W. Ventura, Ventura	23- 3-23	6,250	cleaning out
Associated Oil Co., No. 30 V.L.W. Ventura, Ventura	24- 3-23	6,500	sd. sh. drlg.
Associated Oil Co., No. 28 Lloyd Ventura, Ventura Co.	27- 3-23	4,775	sd. sh. drlg.
Shell Oil Co., No. 88 Taylor Ventura, Ventura Co.	30- 3-23	6,975	sd. sh. drlg.
General Pet. Corp., No. 17 Barnard Ventura, Ventura	23- 3-23	3,192	sd. sh. drlg.
General Pet. Corp., No. 13 Notten Ventura, Ventura	23- 3-23	9,510	redrlg. 9,384
Jennings, E. P., No. 1 Alpaugh, Kern Co.	4-24-23	2,010	sd. sh. drlg.
Den Pet. Co., No. 1 Devils Den, Kern Co.	20-25-19	1,287	redrlg. 1,162
Standard Oil Co., No. 1 Lost Hills, Kern Co.	2-26-20	6,887	dry; abd.
Associated Oil Co., No. 4 Lost Hills, Kern Co.	1-26-20	5,898	sd. sh. drlg.
Associated Oil Co., No. 6-L-3 Lost Hills, Kern Co.	2-26-20	1,477	sd. sh. drlg.
Associated Oil Co., No. 12-A-3 Lost Hills, Kern Co.	11-26-20	1,675	pumped dry
Lincoln Pet. Co., No. 2 Lost Hills, Kern Co.	12-26-20	2,507	to P.B. 2,300
Texas Co., No. 1 Lost Hills, Kern Co.	11-26-20	2,037	prod. test
East Puente Oil Co., No. 22 McKittrick, Kern Co.	11-30-21	1,318	bailing
Woodward, Hoke, No. 6 McKittrick, Kern Co.	11-30-21	1,232	O.S. drlg.
Bergman, H. L., No. 1 McKittrick, Kern Co.	30-30-22	1,950	br. sh. drlg.
General Pet. Co., No. 1 South Belridge, Kern Co.	30-28-21	11,377	suspended
Rio Grande Oil Co., No. 1 Belridge, Kern Co.	18-28-20	2,652	dry; abd.
Culbertson & Sipley, No. 1 Belridge, Kern Co.	35-28-25	1,660	rigging up
Associated Oil Co., No. 5 North Belridge, Kern Co.	34-27-20	8,431	O.S. drlg.
Belridge Oil Co., No. 12-1 North Belridge, Kern Co.	1-28-20	4,989	sd. sh. drlg.
Belridge Oil Co., No. 15-35 North Belridge, Kern Co.	35-27-20	4,397	hd. sd. drlg.
Belridge Oil Co., No. 5-1 North Belridge, Kern Co.	1-28-20	6,984	hd. sh. drlg.
Continental Oil Co., No. 8 North Belridge, Kern Co.	36-27-20	8,421	O.S. drlg.
Shell Oil Co., No. 1 Antelope Plains, Kern Co.	5-28-20	4,854	P.B. 1,502
Associated Oil Co., No. 21 Kern Front, Kern Co.	23-28-27	1,990	rig. to pump
National Oil Co., No. 1 Kern Front, Kern Co.	11-28-27	1,658	will deepen
National Oil Co., No. 3 Kern Front, Kern Co.	11-28-27	1,720	pump. 294 b.d.
Honolulu Oil Corp., No. 89 Kern Front, Kern Co.	8-28-27	2,873	pump. 140 b.d.
McDonald & Dearin, No. 3 Kern Front, Kern Co.	11-28-27	2,001	sd. sh. drlg.
Italo Pet. Corp., No. 34 Kern Front, Kern Co.	16-28-27	1,987	sd. sh. drlg.
Kaime, A. M., No. 1 Kern Front, Kern Co.	17-28-27	1,297	sd. sh. drlg.
General Pet. Corp., No. 38 Kern Front, Kern Co.	14-28-27	1,795	cmtd. 1,675
Kaar, Charles, No. 1 Kern Front, Kern Co.	26-28-27	2,250	pump. 120 b.d.
Bell Corp., No. 2 McVan, Kern Co.	14-27-27	1,218	pump. 50 b.d.
Bell Corp., No. 3 McVan, Kern Co.	14-27-27	15	sd. sh. drlg.
Harp, E. J., No. 1 Dominion, Kern Co.	27-26-28	1,420	bailing
Shell Oil Co., No. 18 Mount Poso Security, Kern Co.	16-27-28	1,755	O.S. drlg.
Chevalier, J. J., No. 1 Mount Poso Vedder, Kern Co.	3-27-28	1,455	bailing
Lytle, R. S., No. 5 Mount Poso Dorsey, Kern Co.	26-27-28	1,580	sd. sh. drlg.
Bargol Oil Co., No. 3 Mount Poso, Kern Co.	11-27-27	1,194	pump. 40 b.d.
Cal-Coast-Apex Oil Co., No. 1 Mount Poso, Kern Co.	36-26-27	1,876	sd. sh. drlg.
Hall-Baker Co., No. 20-1 Jasmine, Kern Co.	20-25-27	2,230	sd. sh. drlg.
Doyle Pet. Co., No. 1 Jasmine, Kern Co.	15-25-27	2,956	resume work
Elbee Oil Co., No. 1 Fruitvale, Kern Co.	23-29-27	3,805	will P.B.
Magnet Oil Co., No. 5 Fruitvale, Kern Co.	21-29-27	4,155	bailing
Western Gulf Oil Co., No. 33 Fruitvale, Kern Co.	21-29-27	1,531	sd. sh. drlg.
Miami Oil Co., No. 1 Fruitvale, Kern Co.	21-29-27	4,065	O.S. drlg.
Bilgrad Oil Co., No. 1 Fruitvale, Kern Co.	21-29-27	3,252	sd. sh. drlg.
Oil Incorporated, No. 1 Fruitvale, Kern Co.	26-29-27	3,390	cleaning out
Dixie-Lee Oil Co., No. 5 Fruitvale, Kern Co.	28-29-27	3,190	flow. 167 b.d.
Linderman Oil Corp., No. 1 Fruitvale, Kern Co.	28-29-27	3,800	sd. sh. drlg.
Whiston, H. L., No. 1 Fruitvale, Kern Co.	23-29-27	1,520	sd. sh. drlg.
Mosebach Oil Co., No. 1 Fruitvale, Kern Co.	21-29-27	4,166	cleaning out
Haar & White, No. 2 Fruitvale, Kern Co.	26-29-27	1,520	sd. sh. drlg.
Allied Pet. Co., No. 20 Mountain View, Kern Co.	19-30-29	5,431	sd. sh. drlg.
Buffalo Oil Co., No. 4 Mountain View, Kern Co.	19-30-29	4,897	flow. 490 b.d.
Hogan Pet. Co., No. 18 Mountain View, Kern Co.	32-30-29	5,753	bailing
Hogan Pet. Co., No. 19 Mountain View, Kern Co.	5-31-29	5,053	sd. sh. drlg.
Hogan Pet. Co., No. 20 Mountain View, Kern Co.	4-31-29	2,690	sd. sh. drlg.
Sheldon Oil Co., No. 2 Mountain View, Kern Co.	19-30-29	5,642	sd. sh. drlg.
Standard Oil Co., No. 33 Mountain View, Kern Co.	18-30-29	4,572	cmtd. 4,531
Shell Oil Co., No. 11 Mountain View, Kern Co.	32-30-29	6,049	flow. 1,650 b.d.
Mohawk Pet. Co., No. 3 Mountain View, Kern Co.	30-30-29	6,178	sd. sh. drlg.
Mohawk Pet. Co., No. 8 Mountain View, Kern Co.	30-30-29	5,864	sd. sh. drlg.
Mohawk Pet. Co., No. 2 Arvin, Kern Co.	10-31-29	6,002	form. test
General Pet. Corp., No. 1 Arvin, Kern Co.	26-31-29	6,875	sd. sh. drlg.
Associated Oil Co., No. 1 Arvin, Kern Co.	3-31-29	5,630	P.B. 5,425
Shell Oil Co., No. 1 Arvin, Kern Co.	15-31-29	6,162	Schist
Arkelo Oil Co., No. 1 Lerdo, Kern Co.	23-28-26	4,500	sd. sh. drlg.
Associated Oil Co., No. 1 Rio Bravo, Kern Co.	30-29-25	7,260	sd. sh. drlg.
Standard Oil Co., No. 11-1 Rio Bravo, Kern Co.	19-29-26	6,497	sd. sh. drlg.
Plute Holding Co., No. 1 Round Mountain, Kern Co.	17-28-29	716	sd. sh. drlg.
Shell Oil Co., No. 1-8 Olcese Round Mountain, Kern	17-28-29	2,050	rig. to pump
Shell Oil Co., No. 11 Freeman Round Mountain, Kern	20-28-29	1,720	cmtd. 1,381
Texas Co., No. 1 San Emidio, Kern Co.	11-11-22	9,800	sd. sh. drlg.
Standard Oil Co., No. 9-1 Ten Section, Kern Co.	34-30-26	6,464	sd. sh. drlg.
Standard Oil Co., No. 10-1 Ten Section, Kern Co.	20-30-26	8,087	hd. sd. drlg.
Shell Oil Co., No. 2 Ten Section, Kern Co.	29-30-26	8,984	P.B. 8,372
Ohio Oil Co., No. 1-E Ten Section, Kern Co.	19-30-26	7,840	sd. sh. drlg.
Superior Oil Co., No. 8 Ten Section, Kern Co.	11-30-26	3,165	sd. sh. drlg.
Ohio Oil Co., No. 1-B Buena Vista Gas, Kern Co.	4-32-26	4,761	sd. sh. drlg.
Fenray Oil Co., No. 1 Midway-Sunset, Kern Co.	34-32-24	4,210	idle
C. C. M. Oil Co., No. 1-28 Midway-Sunset, Kern Co.	28-32-23	3,590	idle
C. C. M. Oil Co., No. 19-21 Midway-Sunset, Kern Co.	21-32-23	2,362	fish. bailer
C. C. M. Oil Co., No. 20-21 Midway-Sunset, Kern Co.	21-32-23	2,050	O.S. drlg.
C. C. M. Oil Co., No. 21-21 Midway-Sunset, Kern Co.	21-32-23	1,600	sd. sh. drlg.
Twentieth Century Oil, No. 1 Midway-Sunset, Kern Co.	1-11-24	1,397	sd. sh. drlg.
Burkholder Oil Co., No. 1 Midway-Sunset, Kern Co.	25-32-23	2,536	will deepen
Burkholder Oil Co., No. 2 Midway-Sunset, Kern Co.	25-32-23	1,210	pump. 10 b.d.
Alford Oil Co., No. 6 Midway-Sunset, Kern Co.	25-12-24	2,712	test W.S.O.
Hallmark Oil Co., No. 5 Midway-Sunset, Kern Co.	25-12-24	2,936	fish. liner
Gibson Oil Co., No. 5 Midway-Sunset, Kern Co.	6-11-23	1,798	sd. sh. drlg.
Merritt-Annex Oil Co., No. 4 Midway-Sunset, Kern Co.	25-12-24	2,900	sd. sh. drlg.
Crawford Oil Co., No. 1 Midway-Sunset, Kern Co.	15-31-22	1,141	sd. sh. drlg.
Sheppard Oil Co., No. 1 Midway-Sunset, Kern Co.	12-11-24	2,630	sd. sh. drlg.
Standard Oil Co., No. 3-25-L Midway-Sunset, Kern Co.	25-12-24	3,224	will deepen
Standard Oil Co., No. 21-15-D Midway-Sunset, Kern	15-32-24	3,340	will deepen
Standard Oil Co., No. 8-33-D Midway-Sunset, Kern	33-32-24	2,830	O.S. drlg.
Five Points Oil Co., No. 2 Midway-Sunset, Kern Co.	18-11-23	1,186	bail. water
Pomoc Oil Co., No. 8 Midway-Sunset, Kern Co.	15-32-23	2,810	cmtd.
Union Oil Co., No. 1 Midway-Sunset, Kern Co.	7-11-23	1,830	sd. sh. drlg.
Union Oil Co., No. 3 Midway-Sunset, Kern Co.	22-32-23	946	sd. sh. drlg.
Birch-Ranch Oil Co., No. 1 Midway-Sunset, Kern Co.	22-32-23	2,165	P.B. 1,565
Jerman, R. W., No. 1 Midway-Sunset, Kern Co.	17-31-23	4,740	sd. sh. drlg.
Pan American, No. 66 Midway-Sunset, Kern Co.	22-32-23	2,180	cleaning out
Berry & Ewing, No. 3 Midway-Sunset, Kern Co.	21-32-24	1,150	pump. 50 b.d.
The Texas Co., No. 16 Midway-Sunset, Kern Co.	32-32-24	3,037	bailing
South Cerritos Oil Co., No. 3 Midway-Sunset, Kern Co.	22-32-23	1,560	sd. sh. drlg.
North American, No. 3 Midway-Sunset, Kern Co.	2-32-24	4,155	pump. 120 b.d.
Honolulu Oil Corp., No. 6 Midway-Sunset, Kern Co.	14-32-24	1,474	sd. sh. drlg.
Safeway Oil Co., No. 1 Midway-Sunset Diablo, Kern.	26-32-23	2,897	sd. sh. drlg.
St. Helens Pet. Co., No. 1 Midway-Sunset, Kern Co.	22-32-24	3,425	will deepen
Goldman, Frank, No. 1 Midway-Sunset, Kern Co.	22-32-23	1,586	idle
Reserve Oil & Gas Co., No. 33-1 Tejon, Kern Co.	33-11-19	6,032	fish. liner
Reserve Oil & Gas Co., No. 33-2 Tejon, Kern Co.	33-11-19	4,518	swabbing
Ohio Oil Co., No. 2 Tejon, Kern Co.	21-11-19	3,776	sd. sh. drlg.
Western Gulf, No. 3 Cantua, Fresno Co.	3-17-15	8,527	fish. tubing
Mohawk Pet. Co., No. 1 Cantua, Fresno Co.	30-16-15	70	sd. sh. drlg.
Etheridge Oil Co., No. 1 Iowa Kettleman North, Fresno	27-21-17	688	sd. sh. drlg.

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Bldg., building.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
Br. sh., brown shale.
B.S., basic sediment.
C.P., casing pressure.
Cd. or Crd., cored.
C.D., corrected depth.
Cg., coring.
C.L., center line.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg. or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging or plugged back.
P.B.P., pulling big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.R.T., rigging up rotary tools.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sd. sh., sandy shale.
Sdtr., or St., sidetracking.
S.D.P.L., shut down for pipe line.
S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T.P., tubing pressure.
Tr., tract.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set.
W.P., working pressure.
W.S.O., water shutoff.
W.S.O.O.K., water shutoff O.K.
W.S.O.N.G., water shutoff no good.
W.S.R. or W.O.S.R., wait on standard rig.
Wtr., water.

K. N. D. A., No. 4-18-J Kettleman North, Fresno Co.	18-21-17	9,010	gr. sd. drlg.
K. N. D. A., No. 47-18-J Kettleman North, Fresno Co.	18-21-17	8,910	hd. sd. drlg.
K. N. D. A., No. 25-20-J Kettleman North, Fresno Co.	20-21-17	753	sd. sh. drlg.
K. N. D. A., No. 21-30-J Kettleman North, Fresno Co.	30-21-17	8,454	gr. sd. drlg.
K. N. D. A., No. 52-30-J Kettleman North, Fresno Co.	30-21-17	6,475	br. sh. drlg.
K. N. D. A., No. 58-28-J Kettleman North, Fresno Co.	28-21-17	7,200	hd. sd. drlg.
K. N. D. A., No. 63-28-J Kettleman North, Fresno Co.	28-21-17	8,050	gr. sd. drlg.
K. N. D. A., No. 83-24-H Kettleman North, Fresno Co.	24-21-16	8,936	prod. test
K. N. D. A., No. 85-32-J Kettleman North, Fresno Co.	32-21-17	5,791	br. sh. drlg.
K. N. D. A., No. 52-34-J Kettleman North, Kings Co.	34-21-17	6,294	br. sh. drlg.
K. N. D. A., No. 72-34-J Kettleman North, Kings Co.	34-21-17	7,564	cmtd. 7,464
K. N. D. A., No. 47-2-P Kettleman North, Kings Co.	2-22-17	7,085	fish. casing
Standard Oil Co., No. 32-19-J Kettleman North, Fresno	19-21-17	8,781	fish. D.P.
Standard Oil Co., No. 61-19-J Kettleman North, Fresno	19-21-17	8,890	flow. 1,440 b.d.
Standard Oil Co., No. 72-19-J Kettleman North, Fresno	19-21-17	8,770	fish. D.P.
Standard Oil Co., No. 2-19-J Kettleman North, Fresno	19-21-17	6,504	idle
Standard Oil Co., No. 46-13-H Kettleman North, Fresno	13-21-16	8,362	hd. sd. drlg.
Standard Oil Co., No. 54-1-U Kettleman North, Kings	1-23-18	8,189	fish. D.P.
Standard Oil Co., No. 48-35-J Kettleman North, Kings	35-21-17	7,596	hd. sd. drlg.
Standard Oil Co., No. 46-19-V Kettleman Middle, Kings	19-23-19	6,893	br. sh. drlg.
Kettleman View Oil Co., well No. 1 Kings Co.	29-22-19	4,750	gr. sd. drlg.
Associated Oil Co., No. 1 Avenal, Kings Co.	33-23-17	3,100	P.B. 2,910
McBurney Oil Co., No. 1 Carriso, San Luis Obispo Co.	23-32-22	952	sd. sh. drlg.
Foster, R. A., No. 1 Carriso, San Luis Obispo Co.	2-32-22	5,000	fish. bailer
United Oil Co., No. 2 Panorama, San Luis Obispo Co.	2-32-21	1,950	sd. sh. drlg.
Union Oil Co., No. 1 Huasna, San Luis Obispo Co.	22-32-15	2,180	br. sh. drlg.
Lewis, A. O., No. 1 Pecho, San Luis Obispo Co.	34-30-10	2,310	will deepen
Martin, J. D., No. 4 Pismo, San Luis Obispo Co.	5-32-13	3,018	sd. sh. drlg.
Martin, J. D., No. 5 Pismo, San Luis Obispo Co.	5-32-13	3,066	sd. sh. drlg.
Birch-Royer Oil Co., No. 1 Pismo, San Luis Obispo Co.	33-31-13	2,376	dry; abd.
Cholame Synd., No. 1 Cholame, San Luis Obispo Co.	10-25-15	3,687	form. test
Shell Oil Co., No. 1 Pleyto, Monterey Co.	34-24-10	8,994	P.B. 8,750
Shell Oil Co., No. 2 Pleyto, Monterey Co.	34-24-10	3,575	sd. sh. drlg.
The Texas Co., No. 2 Eureka, Humboldt Co.	22- 3- 1	4,854	sd. sh. drlg.
Amerada Pet. Co., No. 2 Rio Vista, Solano Co.	26- 4- 2	7,029	dry; abd.
Standard Oil Co., No. 2 Rio Vista, Solano Co.	27- 4- 2	4,768	idle
Alford, J. W., No. 1 Sumner, Tulare Co.	28-16-23	260	sd. sh. drlg.
Trico Oil & Gas Co., No. 1 Angiola, Tulare Co.	7-23-23	3,187	P.B. 1,800
Trico Oil & Gas Co., No. 2 Angiola, Tulare Co.	27-21-25	3,135	form. test
Associated Oil Co., No. 1 Sargent, San Benito Co.	5-12- 4	4,443	sd. sh. drlg.
Seaboard Oil Co., No. 1 Alameda, Alameda Co.	13- 3- 3	4,597	hd. sh. drlg.

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S. T. R.	Depth	Status—
Standard Oil Co., No. 1 Alondra, Los Angeles Co.	22- 3-14	3,230	sd. sh. drlg.
Richfield Oil Co., No. 1 El Segundo, Los Angeles Co.	18- 3-14	5,698	reaming
Signal Finance, No. 1 Hawthorne, Los Angeles Co.	10- 3-14	9,395	fish. D.P.
Listle, J. L. No. 1 Moneta, Los Angeles Co.	33- 3-14	7,352	P.B. 4,100
C. C. M. Oil Co., No. 2 Torrance, Los Angeles Co.	31- 3-14	4,150	hd. sd. drlg.
C. C. M. Oil Co., No. 8 Torrance, Los Angeles Co.	9- 4-14	3,966	P.B. 3,194
Ford, T., No. 1 Torrance, Los Angeles Co.	6- 4-14	3,532	pump. 55 b.d.
Southwestern Pet. Co., No. 1 Torrance, Los Angeles	6- 4-14	1,000	sd. sh. drlg.
Pongratz, Gus, No. 2 Torrance, Los Angeles Co.	8- 4-14	3,359	cleaning out
Clark, T. R., No. 1 Torrance, Los Angeles Co.	31- 3-14	4,354	sd. sh. drlg.
Collier, P. V., No. 1 Torrance, Los Angeles Co.	16- 4-14	3,794	P.B. 3,194
Terry, George, No. 1 Redondo, Los Angeles Co.	8- 4-14	3,500	pump. 50 b.d.
Associated Oil Co., No. 51 Inglewood, Los Angeles Co.	8- 2-14	1,770	sd. sh. drlg.
Standard Oil Co., No. 80 Inglewood, Los Angeles Co.	8- 2-14	4,090	swabbing
Standard Oil Co., No. 24 Inglewood, Rubel, Los Angeles	8- 2-14	3,808	flow. 2,535 b.d.
Shell Oil Co., No. 1 Flood Control, Los Angeles Co.	11- 4-13	2,171	sd. sh. drlg.
Crude Oil Drlg. Co., No. 1 Gardena, Los Angeles Co.	31- 3-13	5,675	idle
West American, No. 1 Gardena, Los Angeles Co.	5- 4-13	6,596	idle
Shell Oil Co., No. 84 Dominguez Reyes, Los Angeles	33- 3-13	7,642	O.S. drlg.
Shell Oil Co., No. 87 Dominguez Reyes, Los Angeles	32- 3-13	3,672	sd. sh. drlg.
Union Oil, No. 42 Dominguez Callender, Los Angeles	33- 3-13	6,654	cleaning out
Union Oil, No. 47 Dominguez Callender, Los Angeles	33- 3-13	8,711	sd. sh. drlg.
Union Oil, No. 50 Dominguez Callender, Los Angeles	33- 3-13	6,494	sd. sh. drlg.
Union Oil, No. 42 Dominguez Hellman, Los Angeles	33- 3-13	6,735	cleaning out
Union Oil, No. 44 Dominguez Hellman, Los Angeles	33- 3-13	3,954	cmtd. 3,871
Santa Rita Oil Co., No. 1 Rosecrans, Los Angeles Co.	20- 3-13	2,997	sd. sh. drlg.
Continental Oil Co., No. 39 Seal Beach, Los Angeles	11- 5-12	6,060	rig. to pump
Eastern Oil Co., No. 1 Playa Del Rey, Los Angeles Co.	22- 2-15	7,562	will P.B.
Sharby Oil Co., No. 1 Playa Del Rey, Los Angeles Co.	22- 2-15	5,650	sd. sh. drlg.
Union Oil, No. 17 Vidor Playa Del Rey, Los Angeles	27- 2-15	5,885	sd. sh. drlg.
Superior Oil Co., No. 1 Del Rey, Los Angeles Co.	25- 2-15	6,781	sd. sh. drlg.
Yant Pet. Corp., No. 1 Newhall, Los Angeles Co.	1- 3-16	2,816	P.B. 1,500
Holbrook Pet. Co., No. 1 Newhall, Los Angeles Co.	28- 4-16	3,419	cmtd.
Barnsdall Oil Co., No. 1 Newhall, Los Angeles Co.	26- 4-17	4,052	sd. sh. drlg.
Pan American, No. 1 Wilmington, Los Angeles Co.	26- 4-13	6,626	Schist; abd.
Bankline Oil Co., No. 1 Wilmington, Los Angeles Co.	34- 4-13	3,510	pump. 170 b.d.
General Pet. Corp., No. 1 Wilmington, Los Angeles Co.	4- 5-13	6,814	Schist
Gauthier Oil Co., No. 1 Wilmington, Los Angeles Co.	27- 4-13	2,560	sd. sh. drlg.
Woodward, J. A., No. 1 Montebello, Los Angeles Co.	4- 2-11	3,197	pump. water
Standard Oil Co., No. 89 Montebello, Los Angeles Co.	1- 2-12	2,991	P.B. 2,890
Universal Consd., No. 8 Montebello, Los Angeles Co.	5- 2-11	7,471	P.B. 5,696
Universal Consd., No. 10 Montebello, Los Angeles Co.	5- 2-11	5,897	flow. 615 b.d.
Universal-Richfield, No. 1-J Montebello, Los Angeles	6- 2-11	5,380	cmtd. 5,380
Richfield Oil Co., No. 2 Montebello, Los Angeles Co.	5- 2-11	5,938	pump. 320 b.d.
Richfield Oil Co., No. 3 Montebello, Los Angeles Co.	5- 2-11	752	sd. sh. drlg.
The Texas Co., No. 15 Montebello, Los Angeles Co.	6- 2-11	5,500	O.S. drlg.
Hathaway Co., No. 3 Fulton, S. Fe Spgs., Los Angeles	6- 3-11	4,462	cleaning out
General Pet. No. 46-9 Santa Fe Springs, Los Angeles	6- 3-11	4,575	pump. 100 b.d.
Ring Oil Co., No. 4 Santa Fe Springs, Los Angeles Co.	5- 3-11	4,666	bailing
Union Oil Co., No. 34 Santa Fe Springs, Los Angeles	6- 3-11	4,490	pump. water
Union Oil Co., No. 35 Santa Fe Springs, Los Angeles	6- 3-11	4,190	sd. sh. drlg.
Union Oil Co., No. 36 Santa Fe Springs, Los Angeles	6- 3-11	4,060	sd. sh. drlg.
Union Oil Co., No. 98 Santa Fe Springs, Los Angeles	6- 3-11	4,096	cmtd. 4,085
Union Oil Co., No. 100 Santa Fe Springs, Los Angeles	6- 3-11	4,280	sd. sh. drlg.
Union Oil Co., No. 101 Santa Fe Springs, Los Angeles	6- 3-11	4,950	sd. sh. drlg.
Union Oil Co., No. 102 Santa Fe Springs, Los Angeles	6- 3-11	4,536	rig. to pump
Vanda Pet. Co., No. 1 Santa Fe Springs, Los Angeles	6- 3-11	8,060	idle
Charter Oak Oil Co., No. 1 Covina, Los Angeles Co.	7- 1- 9	891	sd. sh. drlg.
Bernstein, M. E., No. 1 Artesia, Los Angeles Co.	25- 3-12	5,910	idle
Shell Oil Co., No. 43 Alamitos Long Beach, L. Angeles	29- 4-12	3,940	sd. sh. drlg.
Great Coastal Oil Co., No. 1 Elsinore, Riverside Co.	36- 5- 5	3,000	fishing
Associated Oil Co., No. 4 Huntington, Orange Co.	34- 5-11	4,050	cleaning out
Associated Oil Co., No. 8 Huntington, Orange Co.	34- 5-11	4,630	P.B. 4,158
Westport Oil Co., No. 1 Huntington, Orange Co.	34- 5-11	3,852	sd. sh. drlg.
Vicaroo Oil Co., No. 1-A Huntington, Orange Co.	12- 6-11	1,695	sd. sh. drlg.
Pac-American Pet. Co., No. 3 Huntington, Orange Co.	34- 5-11	3,899	bailing
Elliott Oil Co., No. 1 Huntington, Orange Co.	34- 5-11	1,952	sd. sh. drlg.
Lucky Strike Oil Co., No. 7 Huntington, Orange Co.	2- 6-11	3,096	hd. sd. drlg.
Union Oil Co., No. 9 Huntington, Orange Co.	34- 5-11	1,241	sd. sh. drlg.
Richfield Oil Co., No. 3 Huntington, Orange Co.	34- 5-11	3,200	will deepen
Shell Oil Co., No. 19 Brea, Orange Co.	2- 3-10	5,097	rig. to pump
Standard Oil Co., No. 2-5 Coyote, Orange Co.	22- 3-10	3,790	cleaning out
Bar Oil Co., No. 1 East Coyote, Orange Co.	21- 3- 9	2,375	sd. sh. drlg.
Holly Oil Co., No. 1 East Coyote, Orange Co.	20- 3- 9	4,512	cleaning out
Continental Oil Co., No. 1 East Coyote, Orange Co.	20- 3- 9	2,751	P.B. 2,725
Hancock Oil Co., No. 1 East Coyote, Orange Co.	17- 3- 9	3,278	P.B. 2,883
West Coast Ref. Co., No. 1 Santa Ana, Orange Co.	25- 3- 9	1,854	hd. sd. drlg.
Union Oil Co., No. 29 Chapman Richfield, Orange Co.	30- 3- 9	7,741	sd. sh. drlg.
Union Oil Co., No. 36 Chapman Richfield, Orange Co.	29- 3- 9	2,750	sd. sh. drlg.
Union Oil Co., No. 37 Chapman Richfield, Orange Co.	29- 3- 9	1,194	sd. sh. drlg.
Calif. Eastern Oil Co., No. 1 Placentia, Orange Co.	31- 3- 9	4,786	redrlg. 3,952
Melbourne Pet. Co., well No. 1, San Bernardino Co.	12- 3- 8	2,233	cleaning out
Equitable Pet. Co., No. 1 wildcat, San Bernardino Co.	11-10- 5	2,812	hd. sd. drlg.

KANSAS

Week Ending October 24 (Descriptions are East unless marked otherwise)

Barber County

Sinclair Prairie Oil Co. No. 1 Gentry, NE cor. sec. 1-33-15w. Miss. 4,807 ft. (cor.); S.S.O.; cg. 4,915 ft.

Barton County

F. E. Bailey et al No. 1 Hammeke, NE NE SW sec. 12-18-12w. Set 20-in. pipe 40 ft.; S.D. 315 ft.

Freeborn et al No. 1 Sooy, NW NW NE sec. 27-18-12w. Cellar.

S. L. Parks No. 1 Peach, SE cor. sec. 24-16-14w. R.U.S.T.

C. L. Price No. 1 Deutsch, NW NW NE sec. 16-16-13w. Set 8-in. csg. 2,415 ft.; Drlg. 2,550 ft.

Yarnell & Carlson No. 1 Roth, NE cor. sec. 35-18-12w. K.C. 3,120 ft.; S.O. 3,330 ft.; drlg. 3,368 ft.

Butler County

Hutchinson Oil & Gas Co. et al No. 1-A Westfall, SE SW SE sec. 13-27-3. S.D. 1,760 ft.

Simpson Oil Co. No. 1 Deblem, SW cor. sec. 11-26-6. Set 10-in. csg. 1,700 ft.; K.C. 2,105 ft.; drlg. 2,200 ft.

Ed Solomon No. 1 Church, SW NE SE sec. 8-28-5. S.D. 200 ft.

Chase County

Propp et al No. 1 Fromm, SE cor. sec. 29-18-9e. S.D. 2,035 ft.

Clark County

Olson & Watchorn No. 1 Morrison, C SE SW sec. 17-32-21w. Drlg. 6,478 ft.

Cowley County

Craft et al No. 1 Whitson, NE cor. sec. 20-33-4e. R.U.

C. H. Cross No. 1 Cook, SW cor. sec. 6-32-6. Loc.

Home Natural Co. & McNish No. 2 Werner, SE SE SW sec. 31-32-6. Set 10-in. csg. 1,560 ft.; U.R. at 1,710 ft.

Wakefield et al No. 1 Beekman, NW NW SE sec. 26-32-3. Spudded.

Decatur County

Winkler & Koch No. 1 Vessey, C NW SE sec. 26-3-26w. Fsg. 2,135 ft.

Edwards County

Stanolind O. & G. Co. et al No. 1 Donovan, C SE SE sec. 14-26-18w. R.U.R.

Ellis County

Bridgeport Mch. Co. and Hall No. 1 Madden Est., NE NW NW sec. 26-15-18w. O.W.D.D.; Sil. 3,589 ft.; T.D. 3,597 ft.; 600 ft. O.I.H. in 8 hrs.

Bridgeport Mch. Co. No. 1 Ubert, NE NE NW sec. 12-13-18w. Sil. 3,598 ft. Pay 3,630-37 ft.; T.D. 3,707 ft.; acd.; no result; swbd. 155 bbls. oil and 21 bbls. wtr. in 14 hrs.; P.B. 3,638 ft.; recemented 5-in. csg.

Jas. Brouk et al No. 1 Jacobs, NW NW SE sec. 31-15-16w. S.G. 2,600 ft.; drlg. 2,635 ft.

Champlin Refining Co. No. 1 Hadley, SE SW NE sec. 30-11-17w. Siliceous 3,613 ft.; set 6-in. csg. 3,777 ft.; drlg. 3,784 ft. in cong.

Glick & Morrow No. 1 Staah, SW SW SE sec. 6-13-17w. 7-in. csg. 3,367 ft.; R.U. S.T. 3,369 ft.; T.D.

H. Jones Bros. et al No. 1 Phillips, SE SE NW sec. 9-15-17w. Rig.

Ted Kors et al No. 1 Koblitz, SE SW NW sec. 23-12-18w. Drlg. 2,590 ft.

Lario O. & G. Co. No. 1 Marshall, NW SE NE sec. 36-11-18w. Anhy. 1,347 ft.; 8-in. csg. 3,124 ft.; S.S.O.&W. 3,158-66 ft.; U.R. 8-in. 3,361 ft.

Murphy Oil Co. No. 1 Wiesner, SE SE SW sec. 12-14-19w. Drlg. 565 ft.

Taylor et al No. 1 Emery, NE NE NE sec. 23-14-18w. Anhy. 1,162 ft.; drlg. 1,165 ft.

Winkler & Kooh No. 1 Jensen, SW SW NE sec. 3-13-18w. Rig.

Ralph Wixson et al No. 1 Gorham Estate, NW NW SW sec. 35-15-16w. Topeka 2,-850 ft.; Oswald 3,135 ft.; S.O. 3,151 ft., H.F.W. 3,198-3,207 ft; drlg. 3,220 ft.

Wolf Creek Oil Co. et al No. 1 Polifka, SW SW NE sec. 24-13-18w. Oswald 3,-480 ft.; Cong. 3,737 ft.; Sil. 3,845-85 ft.

Graham County

Sam Murphy and J. S. Alcorn No. 1 Wamhoff, C NW sec. 27-10-22w. Oswald 3,599 ft.; S.O. 3,599-3,604 ft.; cored 3,604-23 ft.; some sat.

Noah & Young No. 1 Hills, NW SE SE sec. 19-10-21w. Set 8-in. 3,291 ft.; drlg. 3,365 ft.

Grant County

Columbian Fuel Co. No. 1 Gray, C SE sec. 3-29-35w. Set 8-in. csg. 2,500 ft.; 3,000.-000 ft. gas, 2,808 ft.; T.D.; milling.

Greenwood County

Dunn & Lewis No. 2 Dawson, C NE NE sec. 27-26-13e. S.D. 825 ft.

Guy Scott et al No. 1 Pedroja, SE NE SE sec. 6-26-10. Peru sd. 1,675-1,720 ft.; S.O.; fsg. 2,130 ft.

Hale & Reese No. 1 Needles, NE SW NW sec. 12-25-10. Drlg. 900 ft.

Harvey County

Harburney Oil Co. No. 1 Schrag, NW NW SE sec. 24-22-3w. Set 6⅝-in. csg. 3,118 ft.; S.D. 3,157 ft.

Inca Prod. Co. No. 1 Moore, C NE NE sec. 26-24-3w. Set 10-in. csg. at 565 ft.

Saco et al No. 1 Guthrie, NE NE NW sec. 8-22-2e. Rig.

Haskell County

Helmerich & Payne et al No. 1 Larson, C SE sec. 28-28-33w. T.D. 2,978 ft.; P.B. 2,771 ft.; shot.

Helmerich & Payne No. 1 Meredith, C SW sec. 10-30-33w. R.U.R.

Kearney County

J. L. Murphy No. 1 Campbell, NW NW SW sec. 32-25-35w. Anhydrite 1,900 ft.; drlg. 2,020 ft.

Kingman County

W. C. McBride, Inc., No. 2-A Wooldridge, SW NE SE sec. 16-27-7w. Chat 3,860 ft.; Viola 4,198 ft.; Wilcox 4,226-60 ft.; T.D. and D.&A.

Lincoln County

Graham et al No. 1 Smiley, NE NW NW sec. 26-10-9w. Spudded and S.D.

Logan County

Rose Spring Drlg. Co. et al No. 1 Wright, C SE SE sec. 12-15-35w. R.U.R.

Marion County

Harwood Oil Co. et al No. 1 W. H. Mott, NE cor. sec. 2-17-4e. Drlg. 705 ft.

Western Kansas Oil & Refining Co. et al No. 1 Hauser, SW cor. sec. 19-19-4. R.U.

Meade County

Pacific Midwest Co. No. 1 Rexford, NE SE SW sec. 8-30-29w. R.U.

Ness County

Newton Dev. Co. No. 1 Tenny, NW NW SE sec. 19-18-25w. S.D. 1,907 ft.

Sayre Oil Co. et al No. 1 Kyersee, C NE SE sec. 34-18-21w. 7-in. csg. 4,228 ft.; wtr. 4,229-30 ft.; S.D. 4,250 ft.

Pawnee County

Kessler & Thier et al No. 1 Shea, NE NE NE sec. 22-21-17w. R.U.R.

Pratt County

H. V. Elwell et al No. 1 Fay, NW NW SE sec. 15-27-14w. C.O. 4,355 ft.; T.D.

Indian Territory Illum. Oil Co. and Olson Drlg. Co. No. 1 Bolt, C NW NE sec. 5-29-11w. Chat 4,176 ft.; Viola 4,383 ft.; Simpson 4,474 ft.; Wilcox 4,484-86 ft.; U.R. 6-in. csg.

Reno County

Carlock et al No. 1 Brown Realty Co., NW NW NE sec. 32-22-10w. Rig.

Foraker et al No. 1 Hiett, SE SW NE sec. 34-24-4w. Set 5-in. lnr. 3,385 ft.; Chat 3,424 ft. (cor.); T.D. 3,540 ft.; U.R. 6-in. csg. to 3,420 ft.

Miller et al No. 1 Detter, NE SE SW sec. 28-22-7w. Drlg. 2,972 ft.

Fred Phillips No. 1 Ray, SW SW SW sec. 7-23-8w. Sil. 4,098 ft.; T.D. 4,163 ft.; D.&A.

Pryor & Lockhart et al No. 1 Kerr, C NW sec. 23-23-8w. Chat. 3,685 ft.; S.O. 3,720 ft.; H.F.W. 3,750-55 ft.; drlg. 3,757 ft.

Clyde Pulse No. 1 Payne, SW NW NE sec. 4-22-7w. Set 12-in. at 133 ft.; drlg. 385 ft.

Torry & Feaster No. 1 Schroeder, SE cor. sec. 1-23-7w. B.R.

Rice County

Allison & Fitzwilliam et al No. 1 Foby NW SW NW sec. 17-19-7w. 8-in. 2,890 ft.; K.C. 2,918 ft.; U.R. 8-in. to 3,205 ft.

Buckley No. 1 Bailey, SW SW NW sec. 19-20-6w. Rig.

Carlock et al No. 1 Deweese, SW NW NW sec. 32-20-7w. Set 12-in. csg. 128 ft.; W.O.C.

Charles Petroleum Corp. No. 1 Speck, NW NW SE sec. 29-20-8w. Fsg. 2,795 ft.

Hanna et al No. 1 Brothers, SE SE NW sec. 25-20-8w. Loc.

Sage et al No. 1 Patton, SW cor. sec. 5-21-7. Cong. 3,329-37 ft.; T.D. 3,342 ft.; 6-in. liner at 3,337 ft.; swabbed 35 bbls. oil per hr.

Shell Pet. Corp. No. 1 Maughlin, NE NW SE sec. 11-20-8w. Siliceous 3,235-38 ft., 36,500,000 ft. of gas at 3,260 ft.; acidized; no gas; T.D. 3,294 ft.; S.I.

Shell Petroleum Corp. et al No. 1 Soeken "A," C NW sec. 10-19-9w. M.I.M.

John Stark et al No. 1 Doran, NE NE SE sec. 13-19-10w. Sil. 3,291-3,311 ft.; pot. 1,366 bbls. and 3 per cent water; comp.

W. E. Witt et al No. 1 Wright, NW NW SE sec. 26-19-9w. R.U.

Rooks County

Buckner & Schoff No. 1 McConnel, NE cor. sec. 34-6s-18w. Drlg. 300 ft.

Empire Oil & Ref. Co. No. 1 Ham, SW NW NW sec. 24-8-19w. Set 12-in. csg. 1,114 ft.; C.O.

Jarvis & Strickland No. 1 Hamel, SE SE SW sec. 7-8-20w. M.I.M.

L. C. D. Drlg. Co. et al No. 1 Westhusin C NE SE sec. 11-9-17w. Topeka 2,894 ft.; set 8-in. csg. 2,945 ft.; pay 3,065-70 ft.; T.D. 3,189 ft.; 200 ft. O.I.H. in one hr.

J. H. Lester No. 1 Methene, SE SE NE sec. 29-10-20w. Drlg. by, 3,422 ft.

J. A. Shoemake No. 1 Stebbins, NE NE SW sec. 26-7-17w. T.D. 3,591 ft.; P.B. to 2,976 ft.; 2,500 ft. fluid in hole; P.B.

Rush County

C. L. Sheedy No. 1 Bison, SW cor. sec. 35-16-17w. Drlg. 2,795 ft.

Russell County

Braden & McClure No. 1 Herbel, NE NE NW sec. 35-14-14w. Gorham sd. 3,165-68 ft.; set 5-in. 3,164 ft.; potential 220 bbls. oil; comp.

Coralena Oil Co. No. 1 L. A. Sellens, NW cor. sec. 17-15-13w. Topeka L. 2,620 ft.; T.D. 2,881 ft.; P.B. 2,800 ft.; acd.; pmpd. 1,270 bbls. oil in 16 hrs.; comp.

El Dorado Ref. Co. No. 1 Scott, NW NW NE sec. 17-13-13w. S.D. 835 ft.

Joe Aylward et al No. 1 McAllister, NE NE SE sec. 9-12-13w. Topeka 2,705 ft.; set 6-in. 2,985 ft.; K.C. L. 3,009 ft.; S.D. 3,365 ft.

Saline County

Brouk et al No. 1 Othelander, NE NW SE sec. 10-16-3w. Drlg. 2,105 ft.

Ryan Consolidated Co. & Archer No. Norton, NE cor. sec. 32-14-2w. Simpson 3,412 ft.; T.D. 3,426 ft.; D.&A.

Sedgwick County

D. R. Lauck No. 1 McLean, SW SW SE sec. 1-27-1w. Siliceous 3,613 ft.; wtr 3,755-68 ft.; T.D. 4,123 ft. (cor.); lost bit; S.D.

R. J. Wallace et al No. 1 Scheer, SW cor sec. 22-27-3w. S.O. 3,145 ft.; base K.C. L. 3,265 ft.; cemented back to 3,016 ft.; whipstock 2,940 ft.; drlg. by at 3,200 ft.

Smith County

Helmerich & Payne, No. 1 Meyer, C NE SW sec. 10-5-11w. R.U.R.

Stafford County

Empire Ref. Co. et al No. 1 Jordon, SW SW NW sec. 15-25-14w. Rig.

Indian Terr. Illum. Oil Co. and Empire O. & R. Co. No. 1 Mellies, C N½ N¼ NE sec. 6-22-11w. Cong. 3,395 ft.; drlg. 3,465 ft.

Skelly Oil Co. et al No. 1 Kipp, SE SE NE sec. 27-25-14w. Gas 3,707 ft.; inc. to 800,000 ft. at 3,725-27 ft.; sat. at 3,847-62 ft.; S.G. 3,895-3,900 ft.; drlg. 3,970 ft.

C. E. Skiles No. 1 Leidigh, NW NW SW sec. 21-22-11w. 8-in. csg. 2,205 ft.; drlg. 2,265 ft.

Sumner County

S. J. Buffington No. 1 Payne, C SW NE sec. 10-35-2e. Sd. 1,544-50 ft.; T.D. 1,554 ft.; 1,500,000 ft. gas; comp.

Empire O. & R. Co. No. 1 Hoffman, NW NW SW sec. 27-34-1e. Drlg. 320 ft.

Graham et al No. 1 Dawson, NW NW NW sec. 4-33-2w. Rig.

Hapenny & Green et al No. 1 Evers, SE SE NE sec. 27-31-2. S.D. 519 ft.

W. C. McBride, Inc. & Olson Drilling Co. No. 1 Kinlund, NE NW NE sec. 24-34-1e. Set 10-in. csg. 95 ft.; drlg. 2,619 ft.

Rose Spring Drlg. Co. et al No. 1-A Rutter, C NW NW sec. 21-33-2e. R.U.R.

Texas Co. No. 1 Reed, NE SE SE sec 11-31-1w. Drlg. 4,027 ft.

Trego County

J. J. Hall et al No. 1 Deines, SE SE SE sec. 12-13-24w. Set 6-in. csg. 4,528 ft.; S.D. 4,740 ft.

R. B. McNeely et al No 1 Lemke, NW NW SW sec. 7-11-22w. Drlg. 3,816 ft.

G. M. Piggott, Inc. et al No. 1 Burkett, C SW sec. 15-11-22w. Cong. 3,760 ft.; drlg. 3,820 ft.

York State Oil Corp. No. 1 Gugler, SW cor. sec. 36-12-21w. Set 6-in. 3,492 ft.; drlg. 3,674 ft.

Woodson County

Dwyer et al No. 1 Wolf, NE NE SW sec. 9-24-14. R.U.M.

C. L. Sheedy et al No. 1 Fagan, NE NE SE sec. 11-26-14. Drlg. 610 ft.

Shell Pet. Corp. No. 4 Hill-A, NW sec. 30-3-10. Drlg. 2,275 ft.

Carter County

Head & Straus No. 1 Simpson & Fell, NW NW SE sec. 5-1s-3w. R.U.

Texas Co. et al No. 1-B Cathey, SE NE NE sec. 6-5s-1w. O.W.D.D.; sd. 4,354-55 ft.; swbd. 330 bbls. in 15 hrs.; T.D 4,559 ft.; P.B. to 4,410 ft. Acidized; initial prod., 130 bbls.; comp.

Creek County

M. W. Mosier et al No. 1 Holcomb, SE cor. SW NW sec. 19-18-8. Drlg. 1,005 ft.

Comanche County

Frank Scott No. 1-A Kuntz, SE NE SE sec. 21-4-11w. Drlg. 112 ft.

L. D. Wise No. 1 Cones, SE SE SW sec. 11-1n-10w. Drlg. 1,908 ft. in L.

Cotton County

Phillips Pet. Co. No. 1 Warren, C NE NE SE sec. 1-5s-13w. T.D. 2,158 ft.; crooked hole; P.B. to 1,933 ft.; T.D. 2,140 ft. in new hole; U.R.

Harmon County

Lloalko Trust, Ltd., No. 1 Crosnoe, SE SE SW sec. 14-3n-25w. T.D. 2,980 ft.; S.D.O.

Jefferson County

A. T. Campbell No. 1 Trout, SE NE NE sec. 6-8s-7w. Moving in machine; T.D 2,212 ft.; drlg. cmt.

Massad & Swansberger No. 1 Barrett, NE cor. SE SE sec. 14-6s-6w. R.U.R.

Mid-Continental Oil Co. No. 1 Reid, C SW NW sec. 32-6s-4w. Set 10-in. csg. 40 ft.

Pearson et al No. 1 Douthitt, NE cor. sec 24-6s-9w. T.D. 4,100 ft. in sh.; S.D.

Twin State Oil Co. No. 1 Brown & Majors, SW SE NW sec. 21-5s-6w. Loc.

Love County

Amerada Pet. Corp. No. 1-A Westheimer & Daube, SW SE SW sec. 27-6s-2e. T.D. 7,363 ft.; P.B. 2,970 ft.; perforated csg. at 1,539-99 ft. and 2,095-2,115 ft.; cmtd. perf.; flwd. 22 bbls. in 24 hrs. and "went dead"; S.D.O. Aug. 4.

W. H. Riddle et al No. 1 Johnson, C SW SE cor. sec. 20-8s-2w. T.D. 4,009 ft.; waiting for tools; will deepen.

Sinclair Prairie Oil Co. No. 1 Stockton, SE SE SW sec. 26-6s-2w. T.D. 8,583 ft.; cut 5-in. csg. at 7,109 ft.; P.B. to 6,927 ft.; bailed out; 1,800 ft. oil in hole; rigging standard tools.

Marshall County

Helmerich & Payne No. 1 Taliaferro, NW SE SW sec. 26-5s-5e. T.D. 6,512 ft.; D. &A.

Magnolia Pet. Co. No. 1 Gardner, NE NE NW sec. 34-6s-6e. Spudded 85 ft.

Noble County

Shell Pet. Corp. No. 1 Moelling, C SW NW sec. 31-21-2w. Material in.

Tillman County

Beal & Toler No. 1 Magill, SE SE SE sec. 18-1n-16w. T.D. 595 ft.; machine moved out.

Indian Terr. Ill. Oil Co. No. 1 Hatler, C SW NE sec. 32-2s-17w. Bldg. drk.

Lynn Oliver No. 1 Rilling, SE SE NW sec. 22-1s-15w. Granite Wash 775 ft T.D. 1,030 ft.; C.O.

D. S. Smith No. 1-A Hammill, NE NE NW NW sec. 6-5s-15w. T.D. 2,425 ft.; S.D

OKLAHOMA

Week Ending October 24

NORTHERN OKLAHOMA

Beckham County

Mid-American Oil Co. No. 1 Biscoe, SW SW SW sec. 28-8-22w. S.D. 950 ft.

Caddo County

Wasteka Oil Co. No. 1 Griffin, SW SE NE sec. 27-6-10w. T.D. 6,579 ft.; P.B. to 5,400 ft.; cmtd. drlg. pipe at 5,055 ft.; set whipstock at 2,000 ft.; tried to drill by; S.D.O.

Cleveland County

Helmerich & Payne, Inc., No. 1 Glenn, C NW NE sec. 6-8-1w. Loc.

W. R. Hollenbeck No. 1 Stinson, NW NW NE sec. 17-9-2w. Rig.

Coal County

Carter Oil Co. et al No. 1 Warne, NE NE NW sec. 31-3-9. Cg. 3,854-68 ft.; rec. sdy. L. and sd.; salty.

Continental Oil Co. No. 1 Breedlove, NW SW SW sec. 24-1-8. Drlg. 3,254 ft.

Continental Oil Co. No. 1 Daniels, SW NE SW sec. 27-1-9. Drlg. 2,066 ft.

Continental Oil Co. No. 1 King, NE SW NE sec. 26-1-8. Hunton 4,354 ft.; S.O. 4,358 ft.; T.D. 4,745 ft.; to set 9-in. csg.

Continental Oil Co. No. 1 W. Kirby, SW SE SW sec. 23-1-8. Sd. 1,720 ft.; S.S.O. 1,788 ft.; set 9-in csg. 1,783 ft.; drlg. 1,820 ft.

Sinclair Prairie Oil Co. No. 1 Culver, NE NE SW sec. 16-1-8. T.D. 5,766 ft. (cor.); packer 5,687 ft. and 5,712 ft.; 3 stands mud and 3 stands wtr. in 30 min.; P.B. 5,548 ft.; W.O.C.

Garfield County

Ohio Oil Co. No. 1 McFarland, SE SE SE sec. 25-24-3w. B.R.

Ohio Oil Co. No. 1 Smythe, NE NE SW sec. 23-22-4w (Wilcox sd. test) Viola 4,879 ft.; Simpson 4,910 ft.; first Wilcox 4,968-5,020 ft.; second Wilcox 5,070 ft.; cg. 5,088-89 ft.

Garvin County

Ellison & Hammond No. 1 Selby, C SE NW sec. 24-2n-3w. Waiting on pmp.

C. A. Luttrell et al No. 1 Howell, NW SE NW sec. 34-1-1. T.D. 160 ft.; S.D.

Pure Oil Co. No. 1 Baker, NE cor. sec. 7-2-1e. Paw. 2,241 ft.; drlg. 3,010 ft.

Grady County

Art Holt et al No. 1 Ramsey, NE SE NE sec. 35-5-8w. Drk.

Hughes County

R. K. Ellison No. 1 Peters, SE NW SE sec. 8-6-10. R.U.R.

McAdams & Barnes No. 1 Koch, SW NE NE sec. 1-9-10. T.D 3,835 ft.; P.B. to 2,600 ft.; whipstocking 2,900 ft.; P.B. with 200 sacks; S.D.

McAdams & Barnes No. 1 Long, SE NE NW sec. 29-9-9. Drlg. 3,130 ft.

Mid-West Oil Co. No. 1 Turner-Lucas, C SE NW sec. 13-9-9. R.U.S.T.

Sivalls et al No. 1 Montgomery, NW SW NW sec. 7-9-9. Crom. 3,472-94 ft.; T.D. 3,540 ft.; 5-in. csg. run to 3,472 ft.; not cmtd.; will S.D.

Southern Oil Co. No. 1 Buck, C NW SW SW sec. 21-8-10. R.U.S.T.

Kay County

Max Kelley No. 1 Johns, NW NW NW sec. 35-27-4. H.F.W. 1,275 ft.; drlg. 1,380 ft.

Kiowa County

Algus Pet. Co. No. 1 Osbourne, NW cor. NE sec. 9-7-16w. T.D. 1,015 ft.; S.D.

Burns & Moore No. 1 Block, NW NE SW sec. 31-6-16w. S.D. 50 ft.

R. O. Houlbelt No. 1 Pfenning, SE NW SE sec. 35-7-17w. Machine.

Lykins et al No. 1-A Aetna Life, SE cor sec. 8-5-16w. Drlg. dolomite 635 ft.

Travis & Scott No. 1 Doyle, NE SE SW sec. 21-5-17w. T.D. 939 ft.; machine moved out.

J. M. Young No. 1 Cooke, NE NE NW sec. 33-2-16w. T.D. 487 ft.; U.R. 10-in. csg.

Latimer County

Cheyenne Oil Co. No. 1 Wilson, C SE SE sec. 15-5-18. Rig.

Le Flore County

McCraw et al No. 1 Tidwell, C NW SE sec. 17-3-22. Set 10-in. csg. 1,876 ft.; drlg. 1,993 ft.

Lincoln County

Fleetborn Oil Corp. No. 1 Turner, NW NW SE sec. 28-17-5. Loc.

Skelly Oil Co. No. 1 Sporn, NW NE SW sec. 21-17-3. Cd. 4,617-25 ft.; hd. sd. and S.O.; cg. ahead.

Logan County

Anthony & Marshall No. 1 Fruin-Eckman, SE SE SW sec. 4-16-1e. Drlg. on bailer at 4,955 ft.

Helmerich & Payne et al No. 1 Hasle, NW NW SE sec. 14-16-4w. S.D. for drill pipe, 3,690 ft.

McIntosh County

Stanolind Oil & Gas Co. et al No. 1 Tige, NW NW SW sec. 13-9-15. Drlg. 3,477 ft.

Murray County

Fower Oil Co. No. 1 Lancaster Trust Co., C SW NE sec. 10-1s-2e. Top of Springer 1,860 ft.; S.O. at 1,851-56 ft.; Woodford 2,630 ft.; Hunter 2,951 ft.; S.O.&G. 2,955-93 ft.; cg. 2,993 ft.

Noble County

Shell Pet. Corp. No. 1 Moelling, C SW NW sec. 31-21-2w. R.U.R.

Okfuskee County

Mid-Continent Pet. Corp. No. 1 McKenan, NW NE SE sec. 24-12-8. Booch sd. 3,156-96 ft.; 10 bbls. oil; comp.

Osage County

Chavalier & Simon No. 1 Osage, SE cor sec. 24-23-9. Drlg. 355 ft.

Pittsburg County

Okla. Dist. Oil Co. No. 1 Beeler, NE NE SW sec. 7-7-14. Drlg. 3,216 ft.

Pontotoc County

Caloma Oil Corp. No. 1 Brentz, SE NE SW sec. 4-1-6. S.D. 276 ft.

H. H. Diamond No. 1 fee, SE cor. sec. 30-5-8. Spudded.

Sands Pet. Co. No. 1 Harvey, SE cor. sec. 21-3-5. T.D. 849 ft.; D.&A.

Seminole County

Amerada Pet. Co. No. 1 Yarhola, NE NW NW sec. 36-10-7. Cd. 3,610-26 ft.; odor and stain of oil; T.D. 3,630 ft.; taking Halliburton test.

H. E. Kennedy No. 1 Bowlegs, NW NW SE sec. 3-8-7. Loc.

Riverland O. & G. Co. No. 1-A Goebelt, NW SE SE sec. 12-6-6. Loc.

A. I. Spears No. 1 Keaton, NW cor. sec. 6-5-8. Rig.

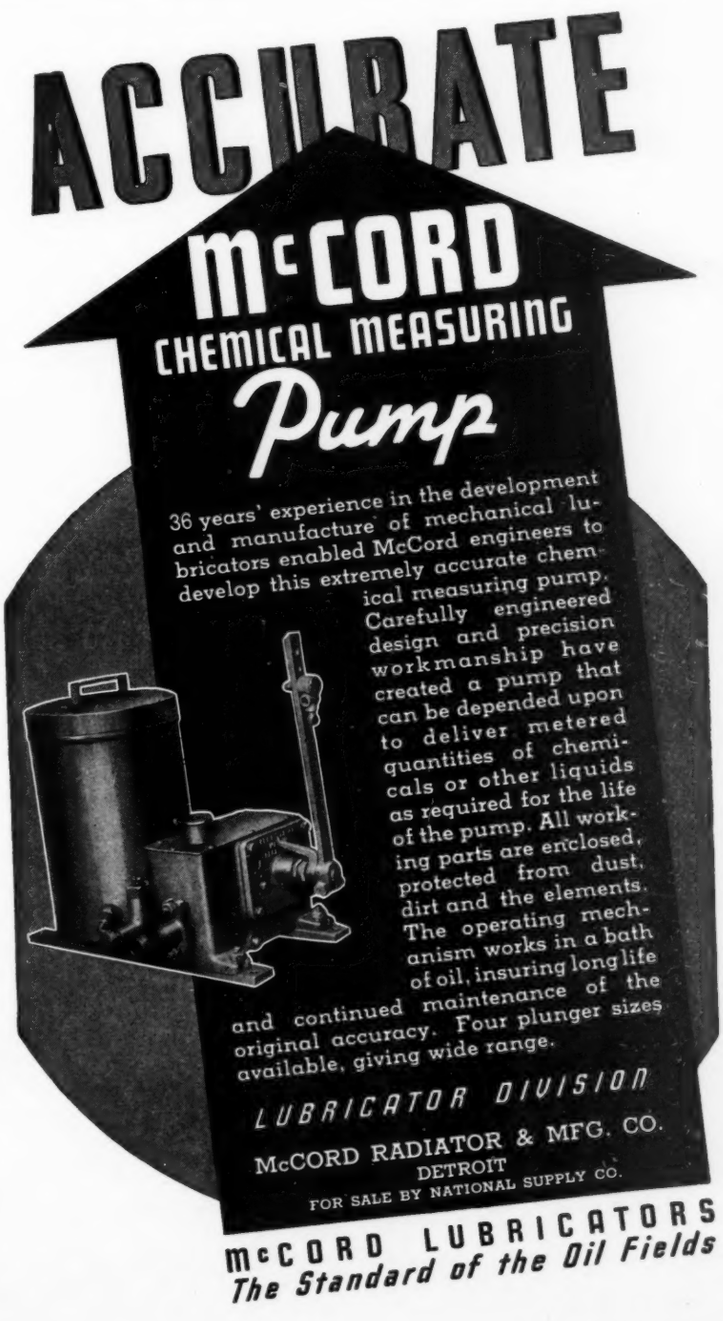
Texas County

Allison & Barnhill No. 1 Bingley, SE SE NE sec. 30-2n-18. (Cimmaron Meridian) S.D. 1,300 ft.

SOUTHERN OKLAHOMA

Atoka County

A. J. Sanders No. 3 Redden, SE SW SW sec. 19-1n-15e. T.D. 890 ft.; rep. motor.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Stephens County

Coline Oil Co. No. 1 Johnson, SW SE NE sec. 1-2n-8w. T.D. 1,400 ft.; prep. to run core bbl.
H. J. Edwards No. 1 Frederick, SW cor. NE SE NW sec. 31-2n-8w. Spudded 30 ft.
Parson No. 1 Olson, C SW SW sec. 21 2-8w. Cd. 4,505-21 ft.; recvd. sd. and sdy. L.; S.O.&G.; cd. 4,525-39 ft., sd. and sh.; S.D. 4,545 ft.; rep. pmps.

ARKANSAS

Bradley County

Joe Modisette No. 1 Bird, N half NW NE sec. 28-16-12. Drlg. 2,856 ft.

Clark County

John G. Wooten No. 1 Z. T. Sparkman, sec. 1-11-20. Drlg. 300 ft.

Columbia County

Buford & Co. No. 1 Kendrick, 330 ft. S and E. NW cor. SE¼ sec. 7-19-18. Drlg. 4,874 ft.
King Oil Co. No. 1 Kitchen et al, NE SE NW sec. 13-17-22. Drlg. 50 ft.

Dallas County

Walter Lown No. 1 G. Atkinson, NE NW SE sec. 7-10-13. 12-in. cmt. 76 ft.; W. O.C.S.

Hempstead County

Easton et al No. 2 Conway-Tiller, 330 ft. N and E, SW cor. SW sec. 34-12-27. S.D. 3,001 ft., high water.
Imperial Oil & Gas Prod. Co. No. 1 Foster Est., sec. 35-12-26. Drlg. 3,200 ft.
Lewis Hays No. 2 State of Ark. (Red River bed), SE cor. sec. 18-14-25. Drlg. 2,820 ft.
Stewart Oil Co. No. 1 fee, sec. 31-12-23. Cg. 2,854 ft.

Little River County

Joe Strahan No. 1 Dierks, SW SE sec. 21-12-28. S.D. 60 ft.

Miller County

Erwin & Leach No. 1 Red River Farms, sec. 2-17-26. Drlg. 3,815 ft.
C. V. Lenz No. 7 Dale, O.W.D.D., sec. 24-15-26. Drlg. 4,120 ft.
McClanahan et al No. 1 Miller Ld. & Lbr. Co., SW cor. sec. 2-18s-28w. T.D. 6,288 ft.; D.&A.
Odell Hinson No. 1 Montana Realty Co. 330 ft. S and W NE NW NW sec. 3-17-28 Fsg. and recvg. D.P.

Nevada County

Benedum & Trees No. 1 Groves, C N half SE NW sec. 10-14-20. T.D. 2,175 ft. (corrected); large oil shows; prep. run 8-in. csg.
L. M. Glasco No. 1 Ritchie Est., NW NW SE sec. 10-14-20. Drlg.
Steel & Warmack No. 1 Wm. Haynil, SE SE NW sec. 6-14-21. S.D. 200 ft.

Pulaski County

G. L. Kilsellman No. 1 fee, SE SE SW sec. 2-1s-13w. S.D. 490 ft.; hd. rk.

Union County

Penn-Ark. Corp. No. 1 W. N. Raulston, 330 ft. S and E. NW NW SE sec. 12-17-14. Drlg. 2,081 ft.
S.H.A. Oil Corp. No. 2 E. F. Gregory, SW NE SW sec. 10-17-14. O.W.D.D.; T.D. 3,388 ft.; tstd. gas on D.S.; also S.W.; W.O.

LOUISIANA

NORTH LOUISIANA PROVEN

Caddo-Rodessa

American Lib. Oil Co. No. 3 Norton, NE cor. sec. 17-23-15. Comp.; flw. 16 B.P.H.; ¾-in. tbg. ck.; T.D. 6,027 ft.
Ark.-La. Gas Co. No. 2 Teamer, NW SE SW sec. 13-23-16. Fsg. for 3,400 ft. of D.S.
Blackwell O. & G. Co. No. 2 Wynn, sec. 8-23-15. Drlg.
J. G. Collins No. 2 Caddo School Bd., sec. 8-23-15, R.U. and S.D.
W. C. Feazel and Kauns No. 1 Wynn, SE SW NE sec. 8-23-15. Drlg. 3,740 ft.
W. C. Feazel and Kauns No. 2 Wynn, SE SW NE sec. 8-23-15. Drlg. 5,526 ft.
David L. Harlin No. 1 W. D. Norton, NW cor. sec. 22-23-15. Loc.
Idessa Oil Co. No. 1 D. K. Sumner, NW SW SE sec. 10-23-15. Fsg. D.S. 5,790 ft.
J. Edward Jones No. 1 M. Z. Sharp, 1,227 ft. N, 330 ft. E. SW cor. SE¼ sec 4 23-16. 10-in. cmt. 2,082 ft.; T.D. 2,101 ft.; W.O.C.S.
La. Oil Rft. Co. No. 4 Ratcliff, NW cor. sec. 16-23-16. Drlg. 5,390 ft.
Lion Oil Ref. Co. No. 3 Wynn, SW cor. sec. 9-23-15. 7-in. cmt. 6,043 ft.; T.D. 6,060 ft.; W.O.C.S.
Lion Oil Ref. Co. No. 4 Wynn, 330 ft. N, 990 ft. E. SW cor. sec. 9-23-15. Rng. 7-in. 6,060 ft.
Lion Oil Co. No. 5 Wynn, 330 ft. N, 2,310 ft. E, SW cor. sec. 9-23-15. 16-in. cmt. 92 ft.; W.O.C.S.
Louisiana Oil Ref. Co. No. 3 Ratcliff, NW cor. sec. 16-23-15. Comp.; flw. 77 B.P.H.; ½-in. tbg. ck.; T.D. 6,060 ft.
McAlester Fuel Co. No. 1 W. M. Mitchell SW cor. sec. 20-23-16. Comp.; flw. 18 B.P.H.; ⅝-in. tbg. ck.; T.D. 6,025 ft.
McAlester Fuel Co. No. 2 N. S. Tyson, C sec. 22-23-16. T.D. 6,016 ft.; will acid.
Magnolia No. 9-A Caddo Levee Bd., SW SE NW sec. 21-23-16. Cg. 5,887 ft.
R. W. Norton No. 1 Starke, SE SW sec. 16-23-16. 9-in. cmt. 2,083 ft.; T.D. 3,240 ft.; W.OC.S.
R. W. Norton No. 1 Payne, C SE SE sec. 27-23-16. Drlg. 309 ft.
Phillips Pet. Co. No. 7 Norton, NE SE NW sec. 17-23-15. 7-in. cmt. 6,016 ft.; T.D. 6,048 ft.; W.O.C.S.
Phillips Pet. Co. No. 2 Rose McDonald, NW S½ NE sec. 17-23-15. Drlg. 4,000 ft.
Phillips No. 1 Wilbanks, NE SW SW sec. 8-23-15. T.D. 6,055 ft.; no sat.; W.O.
Phillips Pet. Co. No. 4 Cora Woods, SE NW NE sec. 17-23-15. Drlg. 6,032 ft.
Snowden & Anding No. 3 Taylor, C W½, Lot 9, Blk. 46, sec. 23-23-16. 16-in. set 302 ft.
Standard Oil of La. No. 1 Farmer, SW NW SW sec. 7-23-15. Loc.
Tide Water No. 13 Sexton, SE SE SE sec. 14-23-16. O.W.D.D.; tstg.; T.D. 6,066 ft.;
United Gas No. 4 fee, NW NW SE sec. 16-23-16. Loc.
United Gas No. 5 Brewer Unit, SE SW NW sec. 21-23-16. Drlg. 2,130 ft.
United Gas No. 8 Brewer Unit, 83 ft. N. 538 ft. W. C sec. 22-23-16. Drlg. 5,761 ft.
United Gas No. 3 fee 574. NE SE sec. 16-23-16. Comp.; flw. 20 B.P.H.; ⅝-in. tbg. ck.; T.D. 5,990 ft.
United Gas No. 24 Rodessa Oil & Ld. Co., SE NW SE sec. 17-23-16. Cg. 5,856 ft.
United Gas No. 25 Rodessa Oil & Ld. Co., NE NW NE sec. 22-23-16. Drlg. 4,730 ft.
United Gas No. 26 Rodessa O. & Ld. Co., NW SW NE sec. 15-23-16. Drlg.
United Gas No. 5 W. B. Spearman, NW SW sec. 15-23-16. 13-in. cmt. 257 ft.; W.O. C.S.
United Gas No. 6 N. S. Spearman, 600 ft. S. 650 ft. E. NW cor. sec. 18-23-15. Comp.; flw. 34 B.P.H.; ⅝-in. tbg. ck.; T.D. 6,030 ft.
United Gas No. 7 N. S. Spearman, SW cor. sec. 7-23-15. Rng. 7-in.; T.D. 6,075 ft.

N. LOUISIANA WILDCATS

Bienville Parish

DeSoto O. & G. Co. No. 1 Dunn and Olsen, C N½ NW¼ sec. 15-16-10. Drlg. 3,434 ft.
J. W. Leonard No. 1 Courtney, 330 ft. N and W, SE cor. sec. 5-17-5w. Perf. 7-in. and acid; dry; perfg. and tstg.; T.D. 7,324 ft.

Bossier Parish

Ark-La Gas Co. No. 1 J. G. McDade, NW cor. sec. 8-17-11. Drlg. 3,250 ft.
Geo. H. Bringhurst et al No. 2 Buckley, 1,000 ft. N. 330 ft. W, SE cor. sec. 35-21-13. Drlg. 2,192 ft.
Premier Inv Co. No. 34 Wyche, NW NE NW sec. 14-19-11. Comp.; T.D. 420 ft.; pmp. 30 B.P.D.
Premier Inv. Co. No. 35, NW NE NW sec. 14-19-11. Drlg. 407 ft.
United Gas No. 1-G H. L. Skannal, NE SE NE sec. 22-17-12. R.U.
United Gas No. 1 Roos, NW cor. sec. 23-17-12. Drlg. 4,315 ft.
United Gas No. 1-F H. L. Skannal, 660 ft. S. 2,640 ft. W. NE cor. sec. 26-17-12 T.D. 5,201 ft.; Pettit sd.; flw. and tstg.

Caddo Parish

C. C. Crews No. 2 Pender NW SW sec. 11-20-15. Drlg. 825 ft.
W. D. Chew No. 1-D Levee Bd., NW SE NE sec. 34-21-16. Drlg. 200 ft.
W. D. Chew No. 2 Levee Bd., NE cor. sec. 5-20-16. Drlg.
Gulf Ref. Co. No. 1 E. P. Hatcher, 660 ft. N and E. SW cor. SE¼ sec. 11-17-15. Drlg. 6,600 ft.
Producers O. & G. Co. No. 2 Currie, NE SE sec. 32-19-16. Drlg. 560 ft.
J. B. Hutchinson No. 2 Storey-Phillips, SW cor. NE NW sec. 28-16-13. Cg. 2,810 ft.
Maja Oil Co. No. 1 Mathew, NE SE sec. 10-20-15. Comp.; pmp. 65 B.P.D.; T.D. 2,204 ft.
Morefield & Prine No. 3 Stokeley, sec. 5-20-16. R.U.
Prairie River Synd. No. 1 Hutchinson, 330 ft. N and E, SW NW sec. 15-15-12. Drlg. 7,216 ft.
Shopiex No. 5 Natalie, SE W½ SE sec. 10-20-15. Tstg. S.W. and O.S.; T.D. 2,197 ft.; W.O.
Stanolind O. & G. Co. No. 110, NE cor. 14-21-15. T.D. 1,674 ft.; comp.; pmp. 5 B.P.D.; acid.
Stanolind O. & G. Co. No. 111, NE cor. sec. 14-21-15. 7-in. cmt. 1,472 ft.; T.D. 1,684 ft.; W.O.C.S.
F. L. Luckett No. 1 Connell, NE sec. 10-20-15. S.D. 908 ft.
Stewart-Williams No. 3 Iron, SW NE 10-20-15. Bailing; S.W. and O.S.; T.D. 2,197 ft.

Caldwell Parish

Crickett & Woods No. 1 fee, NW SE NE sec. 18-11-3. Drlg. 1,765 ft.

Claiborne Parish

E. T. Oakes No. 1 H. W. Patton, NE cor. sec. 1-20-5. S.D.; T.D. 5,067 ft.
United Gas Public Service Co. No. 2 Durfett, 660 ft. N and 1,980 ft. E. SW cor. sec. 31-20-5. T.D. 8,616 ft., fshg. for D.P.
United Gas No. 1 A. P. Taylor, SE cor. sec. 5-19-5. Drlg. 4,655 ft.

De Soto Parish

Jal Drlg. Co. No. 1 Jenkins, SE SW SE sec. 35-13-12. Drlg. 1,200 ft.
R. C. Payne No. 1 Harris, sec 11-13-14. Drlg. 2,722 ft.
T. W. Simmons No. 1 Johns, 330 ft. N 990 ft. W, C sec. 20-14-16. Drlg. 2,800 ft.

Grant Parish

Arcadia Oil Co. No. 4-B Swope, 330 ft. N of No. 2-B, sec. 17-9-1e. Drk.
Cane River Prod. Co. No. 1 Swope, SW NW sec. 17-9-1e. Drk.
Grant Oil Co. No. 1 Swope, SW N¼ NE SW sec. 17-9-1e. S.D. 1,005 ft.; wtr.
Pet. Prod. Co. No. 1 Buffington, SE NE sec. 18-9-1. S.D. 1,505 ft.
Perry et al No. 1 Barrett, 150 ft. N and W, SE NE SE sec. 17-9-1e. 6-in. cmt. 1,583 ft.; W.O.C.S.
Rogers Oil No. 2 Swope, SW NW SW sec. 17-9-1e. 7-in. perf. on bottom; T.D. 1,604 ft.; S.D.

LaSalle Parish

H. L. Hunt No. 8 Urania, NE SW NW sec. 25-10-1. T.D. 1,542 ft.; W.O.S.R.
Urania Oil & Gas No. 1 Urania, NW cor. sec. 7-10-2. S.D. 300 ft.

Morehouse Parish

So. Carbon Co. No. 17 Tensas, NE cor. sec. 4-20-4. Drk.
United Carbon Co. No. 6 Stovall, SE cor. sec. 28-21-4. Comp.; 6,000,000 ft. gas; 750 lbs. R.P.; T.D. 2,167 ft.
United Carbon Co. No. 7 Stovall, NW cor. sec. 27-21-4. R.U.

Natchitoches Parish

Ivan A. Allen No. 1 Simpson, sec. 12-7n-7w. T.D. 50 ft. S.D.
J. F. Lent No. 1 Locke, NE SE SW sec. 26-9-9. Loc.
C. D. Morrison No. 1 Moffitt, 250 ft. N, 250 ft. W. SE cor. sec. 19-10-10. 10-in. set 110 ft.; W.O.C.S.
Union Pet. Co. No. 2 DeBlieux, 2,395 ft. E. 150 ft. S of W cor. sec. 33-10-7w. Drlg. sh. 3,410 ft.

Ouachita Parish

Carbons Con. No. 1 Burt, NE cor. SE sec. 35-19-3e. Comp.; gauge 2,000,000 ft. gas; 930 lbs. R.P.; T.D. 2,185 ft.

Red River Parish

Byrd Exp. Co. No. 1 Edge, SW NE sec. 29-13-11. Hole clean; T.D. 2,499 ft.; W. O.S.R.
W. J. Hunter No. 1 Long Bell Lbr. Co., sec. 19-13-9. Prep. run 8-in.; oil sd. 3,706-19 ft.
Perla Oil Co. No. 1 DeLong, 330 ft. S and E, C sec. 33-12-10. Drlg. 310 ft.

Richland Parish

Gulf Ref. Co. No. 15 R. R. Rhymes et al, sec. 32-17-6e. Drlg. 7,724 ft.

Sabine Parish

M. C. Forsman No. 1 Patrick, NE SW sec. 21-9-13. W.O.S.R.
F. G. Cox No. 1 Whitney Corp., C NW NE sec. 8-9-13. Cmt. 7-in. 2,985 ft.; drlg. out plug; T.D. 5,503 ft.
Ellis Prod. Co. No. 1 Small, SE NW SE sec. 24-7-11. T.D. 2,875 ft.; swab to test.
J. R. Keen No. 1 Long Bell, 276 ft. N and 288 ft. W, SE cor. NE SW sec. 5-18-13. Acidized; W.O.S.R.
Posey Sisters Oil Co. No. 3 Burkett, NE cor. sec. 10-9-13. S.D. 3,162 ft.
A. H. Tarver No. 2 Baker, NW cor. NE sec. 36-8-12. Drlg. 5,415 ft.
J. J. Watson No. 2 Reneau, NE SE SW sec. 29-9-13. T.D. 1,981 ft.; pmp. 15 B.P.D.

Union Parish

Innerstate Natl. Gas Co. No. 53 fee, SE cor. sec. 31-21-4. Comp.; 27,000,000 ft. gas; 860 lbs. R.P.; T.D. 2,145 ft.; gas rock.
So. Carbon Co. No. 12 Grayling, NE cor. sec. 29-21-4e. 6-in. cmt. 2,075 ft.; W.O. C.S.
So. Carbon Co. No. 13 Grayling, SE cor. sec. 5-21-4e. Drk.
So. Carbon Co. No. 14 Grayling, SE cor. sec. 5-21-4e. Loc.
So. Carbon Co. No. 15 Grayling, SW cor. sec. 4-21-4e. Cmt. 6-in. 2,150 ft.; W.O. C.S.

Webster Parish

Magnolia Pet. Co. No. 5 J. Cox, SW SE sec. 23-21-10. Drlg. 4,875 ft.
R. W. Norton No. 2 Josey & Masey, C W½ NE NW sec. 27-21-10. Clearing loc.
Red Hawk Oil Co. No. 1 Mayfield, sec. 9-23-9 10-in. set 90 ft.; W.O.C.S.
Ohio Oil Co. No. 1 R. M. Coyle, NE SE sec. 22-21-10. Cg. 5,613 ft.
Ohio Oil Co. No. 1 Hodcaw Lbr. Co., C NE SE sec. 28-21-10. 10-in. cmt. 5,587 ft.; T.D. 5,720 ft.; W.O.C.S.
Seaboard Oil Corp. No. 1 Cotton Valley Ld. & Lbr. Co., NW SW sec. 35-22-10. M.I.M.
United Gas No. 2 Davis, 660 ft. S and E, NW cor. sec. 23-21-10. Drlg. 5,254 ft.
United Gas No. 1 Mixon, SE SW sec. 29-21-10. Drlg. 5,686 ft.; oil sd. 5,644-45½ ft.
Woodley Pet. Co. No. 2-A L. C. Cox, SW NE sec. 22-21-10. Drlg. 4,240 ft.
Woodley Pet. Co. No. 2-B L. C. Cox, cen. SW SW sec. 23-21-10. Drk.
Woodley Pet. Co. No. 4-B Gray, cen. NE NE sec. 27-21-10. Unable recover D.S.; will T.A.; T.D. 4,875 ft.

SOUTH LOUISIANA FIELDS

Black Bayou—Cameron Parish

Shell Pet. Corp. No. 35 Watkins, sec. 8-12s-12w. Coring sh. 4,896 ft.

Caillou Island—Terrebonne Parish

Texas Co. No. 39 State, sec. 17-23s-20e. T.D. 4,145 ft.; P.B. 3,100 ft.; sdtkd.; drlg. water sd. 4,195 ft.
Texas Co. No. 45 State, sec. 20-23s-20e. Cg. sdy. sh. 3,834 ft.

Charenton—St. Mary Parish

Mike Hogg et al No. 1 Laws Realty Co., sec. 30-13s-10e. R.U.
Mike Hogg No. 1 State, sec. 5-13s-9e. Drlg. sh. 7,123 ft.

Dog Lake—Terrebonne Parish

Texas Co. No. 19 State, sec. 5-22s-16e. T.D. 7,097 ft.; 7-in. csg. 7,068 ft.

Cameron Meadows—Cameron Parish

Burton Sutton No. 14 School Land, sec 16-14s-13w. T.D. 3,372 ft.; I.P. 400 B.P.D. through ¼-in. choke.
Burton Sutton Oil Co. No. 15 Sch. Ld., sec. 16-14s-13w. R.U.
Magnolia-Humble No. 18 Cameron Meadows, sec. 21-14s-13w. Drlg. sd. 3,337 ft.

Darrow—Ascension Parish

Humble O. & R. Co. No. 4 Community, sec. 33-10s-2e. Drk.
Humble O. & R. Co. No. 13 Humble Community, sec. 33-10s-2e. T.D. 4,423 ft.; P.B. and sdtrkg.; top salt 5,178 ft.; T.D. 5,254 ft.; P.B. 2,114 ft.; drlg. sdy. sh. 5,232 ft.

Fausse Point—Iberia Parish

Texas Co. No. 2 State, sec. 35-11s-8e. Drlg. wtr. sd. 6,268 ft.

Gillis—Calcasieu Parish

Fohs Oil Co. No. 14 Castle sec. 13-9s-8w. Drlg. sh. 3,605 ft.
Fohs Oil Co. No. 15 Castle, sec. 13-9s-8w. Drlg. sh. and L. 6,165 ft.
Union Sulphur Co. No. 10 Barbe, sec. 1-9s-8w. Drlg. sh. 1,425 ft.
Union Sulphur Co. No. 2 Bel, sec. 12-9s-8w. T.D. 6,788 ft.; P.B. 5,600 ft.; W.O.C.
Union Sulphur Co. No. 3 Kaufman, sec. 13-9s-8w. Drlg. sh. and L. 6,962 ft.
Union Sulphur Co. No. 10 Powell, sec. 29-7s-2w. Drlg. sh. 6,768 ft.
Union Sulphur Co. No. 13 State, sec. 12-9s-8w. Drk.
Union Sulphur Co. No. 15 State, sec. 12-9s-8w. Drk.

Hackberry—Cameron Parish

Gulf Oil Corp. No. 21 Irwin, sec. 12-12s-10w. T.D. 8,510 ft.; D.S. stuck; abd.
Independent Oil Co. No. 1 Sanner, sec. 29-12s-10w. Drlg. sh. 20 ft.
Stanolind O. & G. Co. No. 5 Carter-Severing, sec. 22-12s-10w. Drlg. sh. 3,212 ft.
Stanolind O. & G. Co. No. 24-B Gulf Ld., sec. 14-13s-10w. Drlg. sh. 6,149 ft.
Stanolind O. & G. Co. No. 7-A School Ld., sec. 16-12s-10w. 10¾-in. csg. 1,969 ft.; drlg. sh. 4,861 ft.
Superior Oil Prod. Co. No. 1 Hebert, sec. 33-12s-10w. R.U.
Texas Co. No. 21 State, sec. 12-12s-10w. Drk.
Texas Co. No. 19-B State, sec. 13-12s-9w. Drlg. sd. and L. 6,024 ft.

Iowa—Cameron Parish

Shell Pet. Corp. No. 21 Heyd, sec. 13-9s-7w. R.U.

Jeanerette—St. Mary Parish

Herton Oil Co. No. 1 Barrileau, sec. 59-13s-8e. P.B. T.D. 6,700 ft.; perfd. csg. 6,680-88 ft.; fsg. for 5-in. csg.
Herton Oil Co. No. 2 Carter, sec. 38-13s-9e. Drlg. sd. and sh. 7,194 ft.

Jennings—Acadia Parish

Cosmo Pet. Co. No. 3 Clement, sec. 46-9s-2w. T.D. 2,145 ft.; 6⅝-in. csg. 2,145 ft.
Ray Croft No. 2 Houssiere-Latrille, sec. 47-9s-2w. T.D. 1,725 ft.; swbg.
Lake City Oil Co. No. 1 Jennings-Haywood, sec. 46-9s-2w. 6⅝-in. csg. 1,786 ft.; T.D. 1,866 ft.; I.P. 150 B.P.D. pumping.
Shell Pet. Corp. No. 2 Community, sec. 40-9s-2w. Drk.
Stanolind O. & G. Co. No. 17 Houssiere-Latrille, sec. 47-9s-2w. T.D. 7,515 ft.; 7-in. csg. 7,509 ft.; P.B. 7,211 ft.; W.O.C.
Superior Oil Prod. Co. No. 1 Crawley, sec. 42-9s-2w. Drlg. shells 4,195 ft.
Superior Oil Prod. Co. No. 1 Jennings-Heywood, sec. 41-9s-2w. Drlg. sd. and sh. 2,012 ft.

Lafitte—Jefferson Parish

Texas Co. No. 5 Rigolettes, sec. 29-17s-24e. T.D. 10,942 ft.; run. csg. to D.D.

Lake Barre—Terrebonne Parish

Texas Co. No. 37 Lake Barre State, T.D. 7,948 ft.; drlg. 7,048 ft. in sdtrkd. hole.
Texas Co. No. 38 State, sec. 38-21s-19e Top salt 1,355 ft.; salt 3,079 ft.; drlg. salt 7,514 ft.

Lake Hermitage—Plaquemines Parish

Gulf Oil Corp. No. 6, LaFourche, sec. 11-8s-25e. Sd. 1,145 ft.

Lake Pelto—Terrebonne Parish

Texas Co. No. 15 State, sec. 17-23s-18e.

T.D. 6,201 ft.; P.B.; drlg. sh. in sdtrkd. hole 4,882 ft.

Leesville—LaFourche Parish

Gulf Oil Corp. No. 57 Leesville, sec. 27-21s-22e. S.D. 4,767 ft.

Texas Co. No. 51 Leesville, sec. 34-21s-22e. Drk.

Texas Co. No. 52 Leesville, sec. 34-21s-22e. Cg. sd. and sh. 4,378 ft.; no report.

New Iberia—Iberia Parish

Crysanthon et al No. 1 Gulf fee, sec. 71-12s-7e. Drlg. 6,612 ft.

H. Fostiades No. 3 Gulf Ld., sec. 25-12s-7e. R.U.

H. Fostiades No. 3 Schwing, sec. 25-12s-7e. T.D. 6,400 ft.; P.B. and sdtrkg. 5,004 ft.

Wm. Hollis No. 4 Boliver, sec. 56-12s-7e. T.D. 5,730 ft.; P.B. to sdtrk. at 2,100 ft.; sidetracking.

Kitos et al No. 3 Sealy, sec. 36-12s-7e. 9⅝-in. csg. 874 ft.; W.O.C.

Texas Co. No. 1 Clementine, sec. 25-12s-1e. Drlg. sd. 6,280 ft.

Texas Co. No. 1 Gragleano, sec. 25-12s-7e. 10⅝-in. csg. 62 ft.; drlg. sh. 2,480 ft.

Texas Co. No. 3-B Hanzen, sec. 54-12s-7e. Drlg. L. 4,204 ft.

Roanoke—Jefferson Davis Parish

Humble O. & R. Co. No. 5-B Devilbiss, sec. 11-9s-4w. Drlg. sh. 1,861 ft.

Shell Pet. Corp. No. 6 Kratzer, sec. 12-9s-4w. R.U.

Port Barre—St. Landry Parish

Pan American Prod. Co. No. 2 Garland, sec. 4-6s-5e. R.U.

Pan American Prod. Co. No. 1 Haskins Garland. T.D. 3,674 ft.; I.P. 120 B.P.D.

St. Martinville—St. Martin Parish

Continental Oil Co. No. 1 fee, sec. 57-11s-6e. 13⅜-in. csg. 1,387 ft.; T.D. 6,707 ft., pulled drill pipe in two 90 ft. off bottom; hole cleaned; T.D. 7,693 ft.; P.B. 6,400 ft.; W.O.C.

Starks—Calcasieu Parish

J. R. Turnbull No. 1 Lutcher-Moore, sec. 19-9s-12w. R.U.

Sulphur—Calcasieu Parish

Union Sulphur Co. No. 782 fee, sec. 29-9s-10w. T.D. 4,581 ft.; 6⅝-in. csg. 4,551 ft.; I.P. 500 B.P.D. through ½-in. ck.

Union Sulphur Co. No. 834 fee, sec. 20-9s-10w. T.D. 4,469 ft.; P.B. 2,456 ft.

Union Sulphur Co. No. 835 fee, sec. 20-9s-10w. T.D. 4,341 ft.; 7-in. csg. 4,316 ft.

Union Sulphur Co. No. 836 fee, sec. 20-9s-10w. R.U.

Union Sulphur Co. No. 837 fee, sec. 20-9s-10w. Drlg. rock 2,088 ft.

Tepetate—Acadia Parish

Continental Oil Co. No. 1 Ardoin, sec. 23-7s-2w. R.U.

Continental Oil Co. No. 7-A Homeseekers sec. 29-7s-2w. T.D. 7,915 ft.; D.S. stuck; fsg.

Continental Oil Co. No. 8-A Homeseekers Dev. Co., sec. 29-7s-2w. Loc.

Continental Oil Co. No. 1 Stoddard, sec 29-7s-2w. T.D. 8,317 ft.; 5⅜-in. csg. on bottom.

Continental Oil Co. No. 1-B Veronie, sec. 28-7s-2w. Drlg. sh. 1,516 ft.

Continental Oil Co. No. 1-B Young, sec. 29-7s-2w. Drlg. sh. 4,510 ft.

S. LOUISIANA WILDCATS

Acadia Parish

R. E. Dalton No. 1 Setting, sec. 17-7s-1w S.D. 2,450 ft.

Humble O. & R. Co. No. 1 Nordyke, sec. 23. Drk.

Allen Parish

Humble O. & R. Co. No. 3 Bel, located in cratered hole, sec. 26-6s-7w. 10¾-in. csg. 165 ft.; drlg. sh. 2,599 ft.

Avoyelles Parish

Frost Oil Co. No. 1 Hines Lumber Co., sec. 3-3s-4e. Drk.

Calcasieu Parish

Buhler Oil Co. No. 2 Faiszt, sec. 26-8s-10w. Old T.D. 4,412 ft.; S.D. 3,755 ft.

General Crude Oil Co. No. 1 George P Buhler, sec. 30-8s-9w. Abd. 8,481 ft.

J. Elmer Thomas No. 1 Farmers Ld. Co., sec. 20-10s-7w. Abd. T.D. 3,911 ft.

Cameron Parish

Magnolia Pet. Co. No. 1, Johnson Bayou sec. 16-15s-14w. Drlg. sh. and L. 7,076 ft.

Magnolia Pet. Co. No. 1 Raymond Lehan sec. 13-12s-9w. 13⅜-in. csg. 3,262 ft.; drlg. sh. 5,215 ft.

Pure Oil Co. No. 1, Mallard Bay, sec. 2-13s-3w. 18⅝-in. csg. 1,499 ft.; S.D. 4,604 ft.

Southern Sulphur Co. No. 2 State, sec. 29-15s-10w. Drlg. sh. 200 ft.

East Baton Rouge Parish

Cavalier Oil Co. No. 1 Vingnes, sec. 40-8s-2e.T.D. 5,655 ft.; washing over D.S.

Cavalier Oil Co. No. 1 Young, sec. 62-4s-1w. Drk.

East Feliciana Parish

East Feliciana Oil No. 1 West & Budding, sec. 37-1s-1w. Spudded 15 ft. and S.D.

Bayou Blue—Iberville Parish

Humble O. & R. Co. No. 1 Wilbert, sec. 67-9s-11e. 16-in. csg. 173 ft.; tested S.W. on D.S. test 1,580-1,600 ft.

Iberia Parish

Jefferson Lake Oil Co. No. 409 Lake Pigneur, Twp. 12s-3e. Sh. 5,910 ft.; no report.

Texas Co. No. 1-B State, Vermillion Bay, sec. 16-15s-6e. T.D. 9,243 ft.; fsg.

Jefferson Parish

Triangle Oil Co. No. 1 Conroe, sec. 125-12s-11e. S.D. 705 ft.

Jefferson Davis Parish

Shell Pet. Corp. No. 1 Joe Sturdivant sec. 25-10s-4w. 10¾-in. csg. 2,616 ft.; T.D. 9,565 ft.; circulating.

Stanolind O. & G. Co. No. 1 C. E. Britt, sec. 15-10s-3w. 9⅝-in. csg. 8,842 ft.; T.D. 9,944 ft.; D.S. stuck; P.B. and sdtrkd. at 9,250 ft.; stuck D.S. in sdtrkd. hole; P.B. 8,785 ft.; W.O.C.

Livingston Parish

Coastline Oil Co. No. 1 Addison Trust Co., sec. 7-7s-3e. Drk.

Plaquemines Parish

Gulf Oil Corp. No. 1 Bay-Adams, sec. 25-32s-19. Sd. 805 ft.

Tide Water Oil Co. No. 2 Manhattan Fruit Co., sec. 19-13s-12e. R.U.

St. Bernard Parish

John Cartwright No. 1 Meraux Nunes, sec. 19-13s-12e. T.D. 6,501 ft.; run. cor. ing test.

Gulf Oil Corp. No. 1 Lake Lery, sec. 28-14s-14e. Drlg. sh. 861 ft.

St. James Parish

Shell Pet. Corp. No. 2 Colonial Sugar, 4,800 ft. N of No. 1, sec. 15-12s-5e. T.D. 2,513 ft.; rmg.

St. Landry Parish

Stanley Thompson No. 1 Lewis, sec. 29-5s-6e. Drlg. wtr. well.

St. Martin Parish

Texas Co. No. 1 Bayou Sale, sec. 23-17s-9e. Drlg. sh. 3,830 ft.

St. Mary Parish

Texas Co. No. 1, Horse Shoe Bayou, sec. 40-17s-9e. Drlg. sh. 7,041 ft.

Terrebonne Parish

Humble O. & R. Co. No. 1 H. J. Ellender, sec. 23-19s-19e. Drlg. sdy. sh. 5,950 ft.

Shell Pet. Corp. No. 1-B Realty, sec. 18-17s-15e. R.U.

Vermilion Parish

Continental Oil Co. No. 1 O. C. Hebert, sec. 20-12s-3e. T.D. 11,732 ft.; circulating with mud; well tried to blow out; fsg. for stuck D.S.; hole cleaned to 10,630 ft.; set cmt.; P.B. to 10,800 ft.; milling out csg. to sdtrk. at 10,830 ft.

Delcambre & Shelton No. 1 Delcambre, sec. 63-12s-6e. S.D. 2,708 ft.

Del-Shell Exploration Co. No. 1 Landry hrs., sec. 1-13s-4w. S.D. 2,000 ft.

Louisiana Land & Expl. Co. No. 1 La. Fur Co., sec. 16-15-1e. Bldg. foundations.

Stanolind O. & G. Co. No. 1 Fred Stovall. R.U.

TEXAS

Week Ending October 24

GULF COAST FIELDS

Raccoon Bend—Austin County

Humble O. & R. Co. No. 6-C Grawunder, Wm. C. White Sur. T.D. 4,110 ft.; 7-in. csg. 4,066 ft. Failed to pump. R.U. to pump.

Humble Oil & Ref. Co. No. 7-B Hardy, J. E. Groce Sur. Sh. 4,095 ft.

Humble Oil & Ref. Co. No. 10 Wilson, Wm. Harvey Sur. Drlg. sh. 2,935 ft.

Hastings—Brazoria County

W. L. Goldston No. 1 fee, Block 6, B.B.B. &C. Sur. Top gas sd. 5,084 ft. T. D. 6,165 ft.; P.B. 6,135 ft.; W.O.C.

Humble O. & R. Co. No. 4 Brown, W. H. Snyder Sur. Drlg. sh. and L. 4,402 ft.

Humble Oil & Ref. Co. No. 1 Geisler, Block 34, H.T.&B. Sur. T.D. 6,080 ft. Running 7-in. csg.

Humble Oil & Ref. Co. No. 1 King, H.T.&B. Sur. Drk.

Stanolind O. & G. Co. No. 1 Floyd Brown H.T.&B. Sur. No. 29. 10¾-in. csg. 1,846 ft. W.O.C.

Stanolind O. & G. Co. No. 1 Margaret Kidd, B. T. Masterson Sur. Drk.

Stanolind O. & G. Co. No. 3 Drodgemeyer, H.T.&B. Sur. No. 36. T.D. 6,140 ft.; 7-in. csg. 6,108 ft.; W.O.C.

Stanolind O. & G. Co. No. 4 Ford, A.C.H. &B. Sur. No. 1, 10¾-in. csg. 1,836 ft.; T.D. 6,080 ft. I.P. 640 bbls. per day through ¼-in. choke.

Stanolind O. & G. Co. No. 5 Ford, A.C.H.& B. Sur. No. 1 R.U.

Stanolind O. & G. Co. No. 6 Ford, A.C.H.& B. Sur. No. 1. 16-in. csg. 90 ft.; 10¾-in. csg. 1,870 ft. Drlg. L. 5,208 ft.

Stanolind O. & G. Co. No. 1 McRibbon, H.T.&B. Sur. No. 29. R.U.

Stanolind O. & G. Co. No. 1 Surface, B.B. B.&C. Sur. 10¾-in. csg. 1,873 ft. T.D. 1,875 ft.

Stanolind O. & G. Co. No. 1 Turner, A.C. H.&B. Sur. No. 1. T.D. 6,080 ft.; 7-in. csg. 5,909 ft. I.P. 256 bbls. in 9 hrs. through ¼-in. choke. T.P. 900 lbs.; C.P. 980 lbs.

Stanolind O. & G. Co. No. 7 Williams, A.C. H.&B. Sur. No. 1. Loc.

Lockridge—Brazoria County

Gulf Oil Co. No. 2-A Wilkes and Smith, J. Robinson Sur. T.D. 5,999 ft.; 9⅝-in. csg. 5,875 ft. Top sd. 6,258 ft. T.D. 6,269 ft. Making drill stem test.

Manvel—Brazoria County

Bowles & Borsodi No. 4 Norvell Co., Inc., H.T.&B. Sur. No. 23. R.U. and S.D.

Burton Drlg. Co. No. 1 Baldwin, Lot 115, H.T.&B. Sur. No. 92. T.D. 4,039 ft.; top sd. 4,041 ft. I.P. 168 bbls. in 12 hrs., ¼-in. choke.

Burton Drlg. Co. No. 1 Bankers Mortgage, E. Little Sur. Drk.

Harrison & Abercrombie No. 4 Lewellen, A.C.H.&B. Sur. Drlg. sh. and L. 1,197 ft.

Sterling Oil & Ref. Co. No. 1 Hamilton, E. Little Sur. Drlg. sh. 1,020 ft.

E. A. Stone No. 1 Nichols, E. Little Sur. Moving in.

Texas Co. No. 1 A. Ellis, H.H. Little Sur Drlg. sh. 5,298 ft.

Texas Co. No. 6 Rash, T. Spraggins Sur. Drlg. sh. 3,914 ft.

Texas Co. No. 3-B Wray, T. Spraggins Sur. Drlg. sh. and L. 2,347 ft.

West Columbia—Brazoria

Sterling O. & G. Co. No. 1 J. A. Phillips, Geo. Kennilee Sur. Drk.

Texas Co. No. 14 Abrams, George Tenille League Sur. T.D. 3,061 ft.; P.B. 3,191 ft.; drlg. L. and shell 3,743 ft.

Heyser—Calhoun County

Humble Oil & Ref. Co. No. 3 Welder, J. M. Rios Sur. Drk.

Humble O. & R. Co. No. 3-B Welder A. Sisneros Sur. T.D. 6,010 ft.; P.B. 5,455 ft.; comp. for gas well.

Humble O. & R. Co. No. 4-B Welder, A. Sisneros Sur. Drk.

Humble Oil & Ref. Co. No. 5 P. H. Welder, J. N. Rios Sur. Drk.

Portilla Oil Co. No. 1 R. H. Welder, A. Sisneros Sur. 10¾-in. csg. 554 ft. T.D. 5,486 ft.; 7-in. csg. on bottom.

Portilla Oil Co. No. 5 Welder, A. Sisneros Sur. Drk.

Anahuac—Chambers County

Gulf Oil Corp. No. 4 Knowles, sec. 48, H. &T.C. Sur. 7-in. csg. 7,081 ft.; T.D. 7,175 ft.; failed to flow; P.B. 7,131 ft.; testing.

Gulf Oil Corp. No. 5 Knowles, sec. 48, H. &T.C. Sur. Drk.

Humble Oil & Ref. Co. No. 1-C Middleton, A. Middleton Sur. 10¾-in. csg. 1,527 ft.

Humble O. & R. Co. No. 23 Meddleton, sec. 58, H.&T.C. Sur. 10¾-in. csg. 1,574 ft.; T.D. 7,089 ft.; I.P. 22 bbls. per hr through ¼-in. choke; T.P. 2,100 lbs.; C.P. 2,680 ft.

Humble O. & R. Co. No. 24 Middleton, sec. 58, H.&T.C. Sur. Drlg. L. 6,655 ft.

Humble Oil & Ref. Co. No. 3-B White, J. McGahey Sur. T.D. 7,120 ft.; 7-in. csg. 7,108 ft. I.P. 13 bbls. per hr. through ¼-in. choke.

Humble Oil & Ref. Co. No. 14 White, J. McGahey Sur. T.D. 7,136 ft.; 7-in. csg. 7,126 ft. I.P. 12 bbls. per hr. through ¼-in. choke.

Humble O. & R. Co. No. 15 White, J. McGahey Sur. T.D. 7,045 ft.; 5½-in. csg. 7,013 ft.; W.O.C.

Sun Oil Co. No. 22 White, J. McGahey Sur T.D. 7,125 ft. I.P. 315 B.P.D. through ¼-in. choke.

Sun Oil Co. No. 23 White, J. McGahey Sur. T.D. 1,361 ft.; W.O.C.

Cotton Lake—Chambers County

Glenn H. McCarthy No. 1 McCarthy No. 4 Kilgore, J. Townsend Sur. R.U.

Humble O. & R. Co. No. 1, Howard Winfree Sur. 10¾-in. csg. 1,075 ft. T.D. 6,311 ft.; 7-in. csg. 6,309 ft.; W.O.C.

Humble O. & R. Co. No. 2 Howard, Winfree Sur. Loc.

Turtle Bay—Chambers County

Sun Oil Co. No. 2 Chambers, M. A. Carroll Sur. 16-in. csg. 111 ft.; W.O.C.

Big Creek—Fort Bend County

Gulf Oil Co. No. 71 Davis, M. Young Sur T.D. 4,007 ft. Prepare to make drill stem test.

Jenal Oil Co. No. 3 Byron, M. Young Sur. T.D. 3,736 ft.; 7-in. csg. 2,850 ft.; swbg.

H. L. Patton No. 1 Bryan, M. Young Sur. T.D. 1,721 ft. Pumping 3 B.P.D.

Thompson Drlg. Co. No. 1 W. C. Moore, B. Wickerson Sur. S.D. 1,900 ft.

Blue Ridge—Fort Bend County

Barnett Pet. Co. No. 1-B Blakely, Lot 7, Blk. E, Drew Sur. T.D. 3,579 ft.; P.B. 3,400 ft.; plugging back.

H. H. Hoffman No. 1 Lee, J. Poitevent Sur. T.D. 4,014 ft.; 7-in. csg. 3,890 ft.; set liner. Pumping 4 B.P.D.

Mills Bennett Prod. Co. No. 5 Lusher, T. Habermacher Sur. R.U.

Texas Gulf Prod. Co. No. 14-B Blakely, J. Poitivent Sur. Drlg. clay 84 ft.

Boling—Fort Bend County

Mack Hank Oil Co. No. 2-A Farmer, J. Scott Sur. Drlg. sh. 3,140 ft.

Mack Hank Oil Co. No. 2-C Farmer, J. Scott Sur. T.D. 4,861 ft.; 7-in. csg. 4,838 ft.; I.P. 500 B.P.D. through ¼-in. ck.

H. K. Spear et al No. 1 Kasperek, Simon Miller Sur. 7-in. csg. 3,960 ft.; S.D. 4,015 ft.

Orchard—Fort Bend County

Gulf Oil Corp. No. 7-H Moore, Burnap Sur. Drk.

Gulf Oil Corp. No. 46 Moore, Lee Burknapp Sur. T.D. 7,892 ft. Running 5-in. csg.

Gulf Oil Corp. No. 48 Moore, J. Frazier Sur. Drlg. sh. and L. 3,140 ft.

Thompson-Fort Bend County

Robert Elkel No. 1 J. W. Hempel, S. Kennedy Sur, Cmtd. 5-in. csg. 5,336 ft.; T.D. 5,408 ft.; S.D.

Sterling O. & R. Co. No. 2 Booth, H. Christmas Sur. T.D. 5,401 ft.; 7-in. csg. 5,350 ft. Swabbing.

High Island—Galveston County

Stanolind O. & G. Co. No. 9-B Cade, M. Dunman Sur. Drlg. sd. 4,520 ft.

Stanolind O. & G. Co. No. 58 Cade, N. Fitzsimmons Sur. T.D. 4,505 ft.; fsg.

Stanolind O. & G. Co. No. 59-A M. Fitzsimmons Sur. Drlg. sh. 1,576 ft.

Dickinson—Galveston County

Humble O. & R. Co. No. 1 Boone, W. K. Wilson Sur. 16-in. csg. 213 ft.

Humble O. & R. Co. No. 1 Mealy. T.D. 9,110 ft.; 7-in. csg. 9,101 ft. I.P. 27 bbls. per hr. through ¼-in. ck. T.P. 1,100 lbs.

Humble Oil & Ref. Co. No. 12-A Stewart, W. K. Wilson Sur. Drk.

Humble O. & R. Co. No. 11-A Stewart, A. Edwards Sur. 10¾-in. csg. 1,996 ft.; drlg. sh. 7,654 ft.

Keneo Oil Co. No. 2 Broughton, N offset to No. 1. T.D. 8,210 ft.; 7-in. csg. 8,113 ft. Perf. csg. 8,075 ft.; I.P. 19 bbls. in 4 hrs. through ¼-in. ck. T.P. 2,300 lbs.; C.P. 2,300 lbs.

Pan American Prod. Co. No. 2 Craig, W. K. Wilson Sur. Drlg. sh. 6,130 ft.

Smith and MacDannald No. 1 Shelar, J. O. Jones Sur. 16-in. csg. 120 ft.; 10¾-in. csg. 981 ft. Drlg. sh. and L. 7,840 ft.

Stanolind O. & G. Co. No. 6 State River Bed. 13¾-in. csg. 2,119 ft.; T.D. 8,050 ft.; 9⅝-in. csg. 8,046 ft. Perf. csg.; swabbing.

Greens Lake—Galveston County

Sun Oil Co. No. 4 Hughes, W. C. M. Baker Sur. Drlg. sh. and L. 2,937 ft.

Arriola—Hardin County

Republic-Houston Oil Co. No. 14 fee, E. Arriola Sur. 13¾-in. csg. 835 ft.; T.D. 3,285 ft.; 9⅝-in. csg. 3,270 ft.; S.D.

Republic Prod. Co. No. 15 fee, E. Arriola Sur. Spudded.

Republic Prod. Co. No. 16 fee, E. Arriola Sur. Drlg. 4,317 ft.

Batson—Harding County

Deering et al No. 5 Hooks, Donoho Sur. Drk.

Deering et al No. 4 W. W. Cruse, F. H. Green Sur. Drlg. sh. 5,530 ft.

Sour Lake—Hardin County

Kirby Pet. Co. et al No. 1, Stephen Jackson Sur. A-34. T.D. 4,966 ft.; 6⅝-in. csg. 4,652 ft.; tested S.W. 4,531-43 ft., making squeeze job.

Mykawa—Harris County

Flanagan Oil Co. No. 1 M. J. Cowherd, Lot 260, Wm. Lovett Sur. T.D. 4,853 ft.; 7-in. csg. 4,780 ft. T.D. 4,862 ft.

West Prod. Co. No. 10 W. H. Irwin, W. B. Walker Sur. Drk.

West Prod. Co. No. 1 Minnetex, Wm. Lovett Sur. Sdtrk. 5,131 ft. S.D. 7,175 ft.

Pierce Junction—Harris County

Rio Bravo Oil Co. No. 11 fee, B.B.B.&C. Sur. 10¾-in. csg. 1,077 ft. T.D. 4,049 ft. I.P. 660 B.P.D. through ¼-in ck.

Superior Oil Co. No. 2-B Whitehead, Blk. 14, J. Hamilton Sur. T.D. 3,830 ft. I.P. 340 B.P.D. through ¼-in. ck.

South Houston—Harris County

Stanolind O. & G. Co. No. 1, District No. 11. R.U.

Stanolind O. & G. Co. No. 5 First National Bank, Callahan and Vince Sur. 10¾-in. csg. 1,206 ft. T.D. 4,775 ft.; 7-in. csg. 4,598 ft.

Stanolind O. & G. Co. No. 3 Holland and Price, H.T.&B. Sur. No. 6. 10¾-in. csg. 1,466 ft. Drlg. sh. 4,311 ft.

Stanolind Oil & Gas Co. No. 2 Howard, tract 30, H.T.&B. Sur. No. 6. Drk.

Stanolind O. & G. Co. No. 2 Johnson, H.T. &B. Sur. No. 6 Drlg. sh. 3,405 ft.

Stanolind O. & G. Co. No. 1 Kelly, H.T.& B. Sur. No. 6. 10¾-in. csg. 1,485 ft.; drlg. sh. 4,042 ft.

Stanolind O. & G. Co. No. 1 McKinney, H.T.&B. Sur. No. 6. T.D. 4,000 ft. I.P. 297 bbls. in 15 hrs. through ¼-in. ck.

Tomball—Harris County

Duffie Smith-Koury No. 1 Hillegeist, J. Houst Sur. 10¾-in. csg. 610 ft.; W.O.C.

Humble Oil & Ref. Co. No. 1 Briggs, E. Smith Sur. 10¾-in. csg. 947 ft.

Humble O. & R. Co. No. 2 Dooley, J. Pruitt Sur. T.D. 5,571 ft.; P.B. 5,564 ft.; perf. csg. 5,553-58 ft. I.P. 20 bbls. per hr. through ¼-in. ck.

Humble O. & R. Co. No. 3 Mahaffey, J. Pruitt Sur. 10¾-in. csg. 924 ft.; T.D. 5,567 ft. Failed to flow, rig up gas lift.

Humble Oil & Gas Co. No. 1 Patterson, J. Pruitt Sur. Drlg. sh. 5,024 ft.

Shell Pet. Corp. No. 1 Tyson, R. Hubbard Sur. 10¾-in. csg. 926 ft. Drlg. sh. and L. 5,291 ft.

Texas Co. No. 2 S. T. Doughtie, I.&G.N. Sur. T.D. 5,564 ft.; 7-in. csg. 5,559½ ft.

Amelia—Jefferson County

Humble O. & R. Co. No. 1 Phelan, C. Williams Sur. Drk.

Humble O. & R. Co. No. 1 Tyrell Combest, C. Williams Sur. 10¾-in. csg. 1,991 ft.; top sd. 6,735 ft.; 7-in. csg. 6,771 ft.; T.D. 6,779 ft.; deepened to 6,800 ft.; tstd. S.W.; P.B. 6,786 ft. Pulled screen and liner; prepare to sidetrack at 6,555 ft.

Glenn H. McCarthy No. 1-H Longe, H. Williams Sur. Drlg. sh. 3,500 ft.

Normandie Oil Corp. No 1 G. C. Prutzman, H. Williams Sur. T.D. 6,977 ft., oil sand, running 5½-in. csg.

Stanolind Oil & Gas Co. No. 1 Sarge, H. Williams Sur. R.U.

Texas Co. No. 1 Yount, A. Houston Sur. 10-in. csg. 1,236 ft. Drlg. sh. and L. 6,853 ft.

Big Hill—Jefferson County

Stanolind O. & G. Co. No. 1 Fitzhugh, McFaddin Sur. R.U.

Fannett-Jefferson County

Gulf Oil Corp. No. 19 Thomas, W. H. Smith Sur. Drlg. L. rock 2,972 ft.

Nome—Jefferson County

Shell Pet. Corp. No. 2 Carpenter, M. E. Pevoto Sur. R.U.

Sun Oil Co. No. 1 Longe, J. Blair Sur. Drlg. sh. 3,036 ft.

Sun Oil Co. No. 2 Long, John Blair Sur. T. D. 6,057 ft. Tubing cleaned, washing.

Cleveland—Liberty County

Gulf Oil Corp. No. 16-C Kirby. R.U.

Hankamer—Liberty County

Gulf Oil Corp. No. 1 Bernice Hankamer Sh. 4,331 ft.

Gulf Oil Corp. No. 1 Weaver A. W. Weaver Sur. Drlg. sh. 4,800 ft.

Gulf Oil Corp. No. 1 J. L. Weaver. Drlg. sh. 5,369 ft.

Hull—Liberty County

Houston Oil Co. No. 2-B Baldwin, J. Devore Sur. Drlg. sh. 4,012 ft.

Esperson—Liberty County

General Crude Oil Co. No. 12 Esperson. Abd. 4,138 ft.

General Crude Oil Co. No. 19 Moores Bluff, M. Duncan Sur. 7-in. csg. 2,838 ft.; abd. 4,155 ft.

General Crude Oil Co. No. 21, Moores Bluff, M. Duncan Sur. Drlg. sh. 2,226 ft.

General Crude Oil Co. No. 31 Esperson, G.C.&S.F. Sur. Drk.

Bay City—Matagorda County

Hamman Expl. Co. No. 1 J. H. Crocker E. Hall Sur. 13⅜-in. csg. 1,260 ft. Drlg. sh. 3,700 ft.

Hawkinsville—Matagorda County

Sun Oil Co. No. 2 Craig, T. Williams Sur. Top salt 796 ft. Drlg. salt 859 ft.

Markham—Matagorda County

Harrison and Abercrombie No. 9 Kountze, sec. 23. S.D. 4,225 ft.

Powers Prod. Co. No. 5 Myers, Wm. Hadden Sur. Drlg. sh. 2,200 ft.

Superior Oil Co. No. 1-B Hawks, W. H. Gainer Sur. S.D. 6,056 ft.

Texas Gulf Prod Co. No. 1 Hudson, Henry Parker Sur. Drk.

Van Vleck—Matagorda County

McDaniel Drlg. Co. No. 1 C. T. Dye, M. Cummings Sur. Drlg. sh. 6,360 ft.

Skelly Oil Co. No. 11-H Cobb, M. Cummins Sur. Drlg. sh. 5,557 ft.

Skelly Oil Co. No. 12-B Cobb, M. Cummins Sur. R.U.

Conroe—Montgomery County

Adeltex Oil Co. No. 1 Lewellen, R. G. Hunter Sur. Drk.

Humble Oil & Ref. Co. No. 1-B Hardy, R. Kukendall Sur. Drlg. sh. 3,165 ft.

A. U. Morrison No. 2 McComb, L. Smith Sur. 10¾-in. csg. 750 ft.; cg. 5,010 ft.; completed, no gauge.

Strake Pet. Co. No. 14 Keystone-Mills, L. Smith Sur. Coring 5,010 ft.

Orange—Orange County

B. Turnbull No. 1 Lutcher Moore, J. Dyson Sur. T. D. 6,691 ft., showing gas, mixing mud.

Greta—Refugio County

Hewitt & Daugherty No. 29 Lambert, Carr & Connell Sur. T.D. 5,892 ft.; perf. csg. I.P. 518 B.P.D. through ¼-in. ck.

Hewitt & Daugherty No. 32 Lambert, Connell Sur. Drlg. sh. 2,437 ft.

Hewitt & Daugherty No. 33 Lambert, Swisher Sur. Drlg. 1,563 ft.

United Gas Co. No. 30 Lambert, Hew Sur. Drlg. 1,618 ft.

Refugio—Refugio County

United Gas Co. No. 4 Rea, Lot 1 Block 1. T.D. 5,537 ft.; P.B. and sdtkd. Drlg. sh. 5,930 ft.

Quintana-O'Connor—Refugio County

Quintana Pet. Co. No. 1 Mary C. Baur-Ximines Sur. T.D. 5,942 ft. I.P. 1,413 B.P.D. through ¼-in. ck.

Quintana Oil Co. No. 2 Heard, Ximines Sur. R.U.

Quintana Pet. Co. No. 40-A O'Connor, Swisher Sur. Spudded and S.D.

Quintana Pet. Co. No. 6-C O'Connor, Main Sur. T.D. 5,920 ft.; 5-in. 5,913 ft.

Hughes—Victoria County

Portilla Oil Co. No. 6 P. H. Welder, P. Demmitt Sur. 10-in. csg. 510 ft.; W.O.C.

Placedo—Victoria County

American Liberty Oil Co. No. 2 Cortez, Brownson Sur. Drlg. sh. 3,700 ft.

Barnsdall-American Liberty Co. No. 7 Pickering and Foos, S.A.&M.G. Survey. T.D. 4,782 ft.; 7-in. csg. 4,773 ft. I.P. 16½ bbls. in 3 hrs. through ½-in. ck.

Barnsdall Oil Co. No. 8 Pickering and Roos, S.A.&M.G. Sur. Spudded .

Barnsdall Oil Co. No. 9 Pickering and Roos, S.A.&M.G. Sur. R.U.

Commonwealth Oil Co. No. 2 Prencia, J. M. Brownson Sur. Drlg. sh. and L. 4,304 ft.

Haynes B. Ownby No. 2 Traylor, J. M. Brownson Sur. 10¾-in. csg. 806 ft. T.D. 4,775 ft.; 7-in. csg. 4,760 ft.

Magnolia Pet. Co. No. 2 Henderson and Pickering, Wm. Rupley Sur. T.D. 4,788 ft.; 7-in. csg. 4,776 ft. I.P. 184 bbls. of fluid in 24 hrs. through ⅛-in. ck., 25 per cent S.W.

Magnolia Pet. Co. No. 3 Henderson and Pickering, Wm. Rupley Sur. Drk.

Westgate Oil Co. No. 4 Mieska, J. M. Brownson Sur. 10¾-in. csg. 820 ft. T.D. 4,766 ft.; 7-in. csg. 4,756 ft.; W.O.C.

Clay Creek—Washington County

Pompkal et al No. 3 Klatte. S.D. 576 ft.

Sun Oil Co. No. 17 Janner, J. F. Perry Sur. T.D. 1,478 ft. I.P. 157 B.P.D.

Sun Oil Co. No. 1 H. Lauter, N. Clay Sur. 7-in. csg. 7,445 ft.; T.D. 7,474 ft.; swabbing showing fresh and S.W., no pressure.

Five Corners—Wharton County

Texas Co. No. 4-B Pierce, A. H. Pierce Sur. 10-in. csg. 1,127 ft. Drlg. sh. and L. 4,116 ft.

Louise—Wharton County

Pure Oil Co. No. 2 Adams, T. W. Heard Sur. Drlg. sh. and sd. 3,030 ft.

Pure Oil Co. No. 1 L. E. Lancaster, M. Cummings Sur. T.D. 5,157 ft.; 7-in. csg. 5,125 ft. Comp., no gauge.

Pure Oil Co. No. 2 Macha, M. Cummins Sur. Drk.

Magnet—Wharton County

P. B. Watson No. 1 Sweet, Smith and McKinzie Sur., Lot 4, Blk. 84. 10-in. csg. 450 ft. Drlg. sh. 3,300 ft.

Pickett Ridge—Wharton County

Texas Crusader, Inc. No. 1 J. F. Kulhela, J. C. Gifford Sur. 10¾-in. 600 ft.; drlg. sh. and L. 3,847 ft.

Texas Co. No. 2 Nelson, I.&G.N. Sur, Blk. 37. Drlg. 222 ft.

Texas Co. No. 26-A Pierce, I.&G.N. Sur. No. 38. T.D. 4,708 ft.; 7-in. csg. 4,708 ft. T.D. 4,713 ft.; rigged up to pump. Dropped from report.

Withers—Wharton County

Texas Co. No. 14-C Withers, John Caldwell Sur. Drlg. sh. and sd. 4,787 ft.

Texas Co. No. 12-C Pierce, Wm. Pettus Sur. 10-in. csg. ,1152 ft. T.D. 5,560 ft.; 7-in. csg. 5,532 ft. I.P. 24 bbls. per hr.

Texas Co. No. 13-C Pierce, John Caldwell Sur. T.D. 5,563 ft.; 7-in. csg. 5,563 ft.; testing.

GULF COAST WILDCATS

Austin County

W. H. Mitchell et al No. 1 F. Fenner, J. Fitzgibbons Sur. S.D. 3,085 ft.

Brazoria County

Beatty, Bowles and Borsodi No. 1 Truska, Lot 4, Blk. 8, H.T.&B. Sur. Drlg. sd. and sh. 2,600 ft.

Texas Co. No. 1 Robbins, J. W. Broughan Sur. 11¾-in. csg. 4,950 ft.; T.D. 6,637 ft.; D.S. stuck. Washing over drill pipe at 5,280 ft.

Calhoun County

Benedum & Trees No. 1 Roemer Est., John T. Oggsberry Sur. Cd. gas sd. 8,205-15 ft.; T.D. 8,374 ft. S.D. Abd.

Continental Oil Co. No. 1 Austin Estate, sec. 12. Blk. H. P.B. 8,521 ft.; sdtrkd. 8,471 ft.; T.D. 8,750 ft.; perf. csg. 8,686-90 ft.; made squeeze job 8,675-83 ft.; W.O.C.

Matagorda Oil Co. No. 1 Brundet, Tr. 5, Matagorda Island. 13⅜-in. csg. at 1,826 ft.; W.O.C.

Chambers County

Humble O. & R. Co. No. 1 A. D. Meddleton, in A. Meddleton Sur. R.U.

Sun Oil Co. No. 1 Acron, sec. 103. T.D. 8,315 ft. Running coring test.

Sun Oil Co. No. 2 Hamilton, J. T. Whit Sur. 13⅜-in. csg. 1,385 ft. T.D. 8,625 ft. Running coring test.

Colorado County

Coyle-Concord & Sterling No. 1 Mary F. South, I.&G.N. Sur., sec. 41. T.D. 6,189 ft.; 5½-in. csg. 6,187 ft. W.O.C.

Galveston County

Shell Pet. Corp. No. 1 Maco Stewart. Spillman Sur. 9⅝-in. csg. 7,707 ft. Drlg. sh. 10,005 ft.

Grimes County

Crook Bros. No. 1 Greer, B. D. O'Conner Sur. S.D. 3,402 ft.

Hardin County

Republic-Houston Oil Co. No. 2 Brooks G. W. Brooks Sur. (relief well). Cmtd. 7-in. csg. 7,027 ft.; T.D. 7,071 ft.; fsg.

Harris County

Bunte O. & G. Co. No. 1 Graves, C. Walters Sur. 10-in. csg. 755 ft.; T.D. 6,428 ft.; sd. showing oil and gas; P.B. and sdtrkd. at 310 ft. Tested S.W.; abd. 6,505 ft.

D. B. Cherry et al No. 1 Bert J. Dodge, Josiah Harrell Sur. S.D. 1,660 ft.

Fred Harris No. 1 J. C. Change, Donoho Sur. S.D. 90 ft.

George Lawrence et al No. 1 Zoppa, J. Farwell Sur. Drk.

Stanolind O. & G. Co. No. 1 Angelo Candelari Reels and Trobough Sur. 10¾-in. csg. 1,404 ft.; T.D. 7,508 ft.; 7-in. csg. 7,499 ft. Drlg. sh. 7,948 ft.

Jackson County

Steinberger Pet. Corp. No. 1 Drushel & Rodriguez Sur. T.D. 7,155 ft.; P.B. sdtk T.D. 7,180 ft.; 7-in. csg. 7,158 ft.; P.B. 4,655 ft.; perfd. csg. 4,640-50 ft.; tested wet gas. Comp. for distillate well; no gauge.

Jefferson County

Sun Oil Co. No. 2 Broussard & Hebert, T.&N.O. Sur. R.U.

Lavaca County

Cole Pet. Co. No. 1 Reed-Nollkamper. A. Smothers Sur. S.D. 2,395 ft.

Welshire Union Oil Co. No. 1-A Pohl, F. Bass Sur. Drk.

Matagorda County

Continental Oil Co. No. 2 Robbins, J. C. Franz Sur. Drk.

Stroke Pet. Co. No. 1 G. T. Sargent, L. E. Parker Sur. Drk.

Tatts & Harris No. 1 Pierce, Lot 23, W. E. Wallace Sur. S.W. sd. 6,953 ft.

Montgomery County

Chapman No. 1 Foster, D. Pevy Hous. Sur. Drk.; spudded.

Polk County

Peyton No. 1 McDonnald, P. J. Menard Sur. Abd. 5,150 ft.

Refugio County

Tide Water Oil Co. No. 1 Landgarf, J. Collyer Sur. R.U.

Tyler County

Republic Prod.-Houston Oil Co. No. 1 Hurd, Norman Hurd Lge. Spudded.

Victoria County

Magnolia Pet. Co. No. 1 Willie Beck, T. &N.O. Sur. R.U.

Plymouth Oil Co. No. 1 Welder, S.A.&M.G. Sur. No. 153. Drlg. sh. 2,327 ft.

Plymouth Oil Co. No. 1 J. J. Welder, S. A. Balding Sur. Prep. to make D.S.T. 6,242-69 ft.; no report.

Walker County

Garland, Hartman & Page No. 1 Carey Ld. & Dev. Co., D. M. McDonald Sur. R.U.

Roswell Oil Co. No. 1 J. Bosborn, J. Jordan Sur. Drlg. sh. 510 ft.

Washington County

Carl Dyers No. 1 Thomas, T. Henslop Sur. T.D. 2,657 ft.; D.S. stuck; P.B. to sdtrk.

Wharton County

Barnett Pet. Co. No. 1 Bard, J. B. Marford Sur. 10-in. csg. 950 ft.; T.D. 3,880 ft.; reaming.

Feimont Oil Corp. No. 1 G. Mitchell, D. Wade Sur. Drlg. sh. 7,061 ft.

Shell Pet. Corp. No. 1 Gus Sedyler, F. Biggam Sur. R.U.

Texas Crusader Oil Co. No. 1 fee, J. Smith & McKenzie Sur. 10¾-in. csg. 1,234 ft.; 7-in. csg. cmtd. 5,562 ft.; 7-in. cmtd. made squeeze job 5,535-37 ft.; prepare to test; P.B. 5,559 ft.; perf. csg. 5,549-56 ft.; pulling screen to reperforate csg.

Texas Crusader Oil Co. No. 1 Hawes and Neal, S. Castleman Sur. 10¾-in. csg. 975 ft.; drlg. sh. and L. 5,527 ft.

S. W. TEXAS WILDCATS

Atascosa County

Frontier Oil Co. No. 1 Oppenheimer, John Sharp Sur. Loc.

Helvetia Oil Co. No. 2 S. Pratt, 333 ft. SE and SW lines tr., Garza Sur. 46. M.I.M.

Rogers & Rogers No. 1 McLain, Trevino Sur. 79. Set sur. csg.; W.O.C.

Bastrop County

Paul Teas No. 1 Vinklarek, S. Millet Lge. Drlg. 6,312 ft.

Bee County

Black Dev. Co. No. 1 Asa Jones, 330 ft. N line, 1,813 ft. E line, 286-ac. tr., Wood Sur. R.U.

Devonian Oil Co. No. 1 Manning, 1,650 ft. NE and SE lines tr., J. Poitevent Sur. Set surf. csg.; W.O.C.

Humble O. & R. Co. No. 9 McKinney, S. C. Randolph Sur. R.U.

Brooks County

Magnolia Pet. Co. No. 1 Lasater, 330 ft. N and W lines, S. Korkill Sur. 440. Cg. sh. 3,327 ft.

Burleson County

Red Bank Oil Co. No. 1 Grann, 2,875 ft. S line, 1,500 ft. E line, E. Santel Sur. Drlg. 5,914 ft.

Caldwell County

Adams and Lyles No. 1 Dale, W. Spiller Sur. T.D. 2,060 ft.; comp. 12 B.P.D.; T.D. 2,197 ft.

Brown Drlg. Co. No. 1 Pope, J. D. Rains Sur. Drlg. 2,439 ft.

Marts & Beavens No. 1 Moody, S. Seal Sur. D.&A. 2,395 ft.

Duval County

Benedum & Trees Oil Co. No. 1 Sevier, 1,300 ft. S line, 980 ft. E line tr., Palo Blanquito Sur. S.D. repairs 4,732 ft.

Frank Buttram No. 1 Nueces Land & Livestock Co., 1,350 ft. N line, 1,700 ft. E line, Sur. 102. S.D. 1,919 ft.

Frank Gravis No. 2 Gravis, 3,050 ft. SE line, 990 ft. SW line, Sur. 250. T.D. 5,454 ft.; D.&A.

G. G. Grimes No. 1 Sling, 330 ft. N and E lines, 160-ac. tr., Sur. 116. Drlg. 2,316 ft.

Intrepid Oil Co. No. 1 Parr, Sur. 26. T.D. 4,737 ft.; S.D.

Lipscomb & Daubert No. 1 Peters, 330 ft. S line, 1,650 ft. E line, Mitigart Sur. 321. Cg. 1,917 ft.

Mills Bennett Prod. Co. No. 3 Yates, 330 ft. N and E lines, Sur. 317. Spudded.

Edwards County

Plateau Oil Co. No. 1 R. L. Hatch, sec. 66, J. W. May Sur. Drlg. 1,683 ft.

Goliad County

Sun Oil Co. No. 1 Fromme, 330 ft. N line tr., 330 ft. W line, A. Martle Sur. Rigged up.

Gonzales County

M. S. Holliday No. 1 Edwards, W. W. Pace Lge. M.I.M.

Guadalupe County

Paul Armstrong No. 1 Tiller, J. C. King Sur. S.D. 1,767 ft.

Chas. Culver No. 1 Vorphal, Geo. Edwards Sur. Drlg. 2,115 ft.

Detroit-Texas Dev. Co. No. 1 Carter, 625 ft. SW line, 170 ft. NW line, 3,000-ac. tr. Spudded in.

J. Harper No. 1 Loepp, Duran Sur. M.I.M.

Francis P. Hynes No. 1 Linne, 415 ft. NW line, 250 ft. SW line, 224-ac. tr., Reese Sur. Cg. 1,862 ft.

Long & Ross No. 1 Feltz, Dunn Sur. T.D. 480 ft.; S.D.

J. T. Wood No. 1 Appling, Hunt Sur. T.D. 2,545 ft.; D.&A.

Hidalgo County

H. J. Porter No. 1 Sweeny Estate, Lot 1, Wood Subd. No. 2. Cg. 5,073 ft.

Jim Hogg County

Eastland Oil Co. No. 1 Vela hrs., 330 ft. S and E lines, Blk. 5, Sh. 1. Loc.

Theo. Hicks No. 1 Kohler, sec. 9, Noriscitas Gr. Fsg. 3,100 ft.

S. Payne No. 1 Holbien, 150 ft. N and W lines, Blk. 10, Sh. 3, Animas Gr. R.U.

Locke Purnell and Gifford Oil Co. No. 3 Gallagher, 330 ft. S and W lines, Blk. 190, Pippin Subd. R.U.

Pan-Ultimo Oil Co. No. 1 Kohler, 2,640 ft. N line, 1,320 ft. W line, Blk. 9, Subd., Meracita Gr. No report.

Putnam & Stewart No. 1 Canales, cen. Blk. 32, Mosser Subd. (reinstated). Drlg. sh. 3,517 ft.

Henry Swift et al No. 1 Holbien, Blk. 58, sec. 3, Las Animas Gr. Sd. 3,112-15 ft.; S.G.; cg. 3,121 ft.

Jim Wells County

Gist & Graddy No. 1 Owens, 660 ft. N line, midway E and W lines. Sur. 161. Set 7-in. csg. 2,340 ft.; T.D. 4,900 ft.; S.D.

Tom Graham No. 1 Luby Estate, Sh. 4, Los Presnos de Abajo Gr. Sd. 5,418-23 ft.; S.O.; set csg. 5,424 ft.; pg. liner to deepen.

E. M. Jones No. 1 Almond, N½, Sur. 7. Drlg. 5,050 ft.

Karnes County

R. L. Barnett No. 2 fee, 568-ac. tr., Hunter Sur. Drlg. 812 ft.

LaSalle County

W. H. Vernon No. 1 Las Abias ranch. 150 ft. N line, midway E and W lines, sec. 726. S.D. 420 ft.

Live Oak County

J. H. Durbin No. 4 Marbach, S. Hays Sur. T.D. 902 ft.; set. 6⅝-in. csg. 896 ft.; bailing.

R. Feitner No. 1 Sanger, 990 ft. S line, 330 ft. W line, E½, Sur. 391. Sd. 2,583-96 ft.; S.O. and wtr.; drlg. 2,604 ft.

Maryland Oil Co. No. 1 Geo. West Est., Lot 399, James Vaughn Sur. No report.

Sun Oil Co. No. 1 James, Pat McGlover Sur. Loc.

Maverick County

J. N. Boicourt No. 1 Edson et al, 1,230 ft. E line, 1,120 ft. N line, Eaves Sur. 68. T.D. 542 ft.; S.D.

Rio Dev. Co. No. 1 Winchester Kelson 150 ft. W line, 750 ft. S line, E½, 130-ac. tr. T.D. 804 ft.; S.D.

McMullen County

L. D. Armsby No. 9 Griffith, 650 ft. N line, 150 ft. NE of No. 8. T.D. 940 ft.; recmtd.; S.D.

C. B. Grimes No. 2 Sling, 330 ft. N and E lines tr., Sur. 116. Loc.

Hagen Stewart Oil Co. No. 1 Kunz, M. Hely Sur. Cg. 1,083 ft.

C. I. Jennings No. 1 Regan, 1,070 ft. S. Frio River, 330 ft. W line, 642-a. tr. Haley Gr. S.D. 1,026 ft.

Geo. Pickett No. 1 Fisher, 2,400 ft. SE line, 11,400 ft. SW line, John Garner Sur. No report.

Medina County

A. Chmel No. 1 Odem, 160 ft. W line, 493 ft. N line tr., Castro Sur. 174. M.I.M.

W. H. Wycoff No. 1 Bendele, 1,275 ft. W line, 150 ft. N line, Joe Barnhart Sur. 593. Spd. in.

Nueces County

Allen and Seaboard Oil Corp. No. 1 Chapman, 660 ft. N and E lines, sec. 80, Laureles Farm Trs., Rincon de Corpus Christi Sur. Drk.

Barnsdall Oil Co. No. 1 Well, Lot 5, McBride Partition. Cg. 6,430 ft.

Fearis & Cosner No. 1 Stockton, 330 ft. S and W lines, NE¼ sec. 25. Loc.

O. W. Killam No. 1 Sevier, 330 ft. S and W lines, sec. 112, Pauls Subd., Driscoll ranch. Drlg. 4,327 ft.

San Patricio County

Eleanor Oil Co. No. 1 Kline, Lot 5, Blk. "C," Coleman-Fulton Pasture Subd. T.D. 6,681 ft.; perf. 6,246-52 ft.; tested fresh wtr.

Eleanor Oil Co. No. 1 W. W. Toland, sec. 15, Blk. A, Coleman-Fulton Pasture Subd. M.I.M.

Hooper-Rutherford, Inc. No. 1 J. D. Willis, 466 ft. S and W lines tr., Williamson Sur. Drk.

Starr County

J. F. Anderson No. 1 Yzagierre, Tr. 1, Porc. 79, J. of Camargo. T.D. 2,910 ft.; resume drlg.

H. L. Bass No. 1 Haden, 3,740 ft. S line, 555 ft. W line, Sh. 47, Porc. 80. Drlg. sh. 1,013 ft.

Bennett & Lowe No. 1 Guerra, 330 ft. SW line, 250 ft. NW line, sec. 293. Reinstated. T.D. 3,060 ft. (cor.); D.&A.

J. H. Brower No. 1 Saenz, Sur. 363. S.D. 150 ft.

F. Davenport No. 1 Kelsey-Bass, 534 ft. S line, N 585-ac. tr., 2,856 ft. E line, Porc. 87. Set 1,000 ft. of surf. csg.; drlg. 5,036 ft.

Davenport-Slick-Urschel No. 1 Slick Est Davenport ranch, sec. 485. Sd. 3,837-55 ft.; T.D. 4,512 ft.; W.O.O.

Double D Oil Co. No. 1 Kelsey-Bass, N½, Porc. 87. Drlg. sh. 5,393 ft.

Leach & Mallott No. 2 Dana Est., Porc. 84, 2,100 ft. Rio Grande River. Comp. gasser in sd. 980-1,007 ft.; shut in.

South Coast Oil Co. No. 1 Isabel Lopez, Sh. 40-B, Porc. 80. T.D. 4,512 ft.; S.D.

Sun Oil Co. No. 1 Orr, 330 ft. N and W lines, Porc. 103. Loc.

Webb County

B. M. Alexander No. 1 fee, Porc. 25. Loc.

French Oil Corp. No. 1 Garcia, Sur. 1121. Loc.

Foster Barnsley No. 1 Webster, 150 ft. N and E lines, S½ NE¼, Sur. 684. Recmtg. 2,275 ft.

Ivan Howard No. 1 Frost Nat. Bank, Sur. 733. T.D. 2,051 ft.; D.&A.

Ivan Howard No. 2 Frost National Bank, N½, Sur. 595. R.U.

Lu-Tex Oil Co. No. 1-A Lone Star Constr. Co., Blk. 26, Porcs. 12, 13 and 14. M.I.M.

Mid-Continent Pet. Corp. and Oklahoma Co. of Texas No. 1 Laubscher, 330 ft. NE and NW lines, NW¼, sec. 1,394. Fsg. 2,886 ft.

H. E. Nessley No. 2 Bruni, Sur. 449. Cg. 2,767 ft.

Starr & Killam No. 1 Bruni, Sur. 585. Loc.

Wilcox O. & G. Co. No. 1 Puig, Serna Blanca Pasture, Galan Gr., Sur. 2182. Loc.

Zapata County

Gilcrease Oil Co. No. 1 Trevino, Blk. 5, sec. 3, Porcs. 2 and 3. S.D. 2,316 ft.

Jennings No. 1 Martinez, Sur. 434. T.D. 150 ft.; S.D.

S. W. TEXAS PROVEN

McCampbell—Aransas-San Patricio Counties

Atlantic Oil Prod. Co. No. 1 McCampbell, 330 ft. NE and NW lines, Lot 8 Blk 41, Subd. 4. Sd. 6,529-42 ft.; set csg. 6,559 ft.; comp. est. 200 B.P.D. on ¼-in. ck.; T.P. 2,200 lbs.

J. Nelson No. 1 Riggs, 330 ft. NW line, 213 ft. SW line, 6.46-ac. tr., Trs. 12 and 13, Blk. 16. Loc.

Hilbig—Bastrop County

Joe E. Mills No. 1 Askew, 600 ft. NW line, 1,525 ft. SW line, 278.5-ac. tr., Wolfenberger Sur. Drlg. 1,107 ft.

Cosden—Bee County

Elwood & Young No. 3 Barnett, John Place Sur. Drk.

Foley—Bee County

Dirks Bros. No. 1 Holzmark, 300 ft. W line, 990 ft. S line, 100-ac. tr., S. May Sur. Sd. 4,042-71 ft.; T.D. 4,250 ft.; P.B. 4,070 ft.

L. Glasscock No. 1 Strickland, 330 ft. W line, 485 ft. S line, C. Hodge Sur. No report.

Pettus—Bee County

United Prod. Corp. No. 54 Ray, Wm. H. Moore Sur. Set csg. 148 ft.; W.O.C.

Voss—Bee County

Devonian Oil Co. No. 3 Voss, May Sur. Set sur. csg.; W.O.C.

Humble O. & R. Co. No. 1 Howard, Chas. Shain Sur. M.I.M.

Humble O. & R. Co. No. 2 Voss, 101-ac. tr. Sd. 3,997-4,000 ft.; D.&A.

Humble O. & R. Co. No. 3 Voss, 101-ac. Cg. 3,980 ft.

West Tuleta—Bee County

Blanco Oil Co. and Buchanan No. 2-B Perez, sec. 9. T.D. 3,115 ft.; comp. est. 200 B.P.D.

Alta Mesa—Brooks County

California Co. No. 1 Jones, La Mestina de Gonzalina Gr. Drlg. sd. 1,324 ft.

California Co. No. 1 Mestina, 4,840 ft. N line, 4,185 ft. E line, B. Garcia tr. No. 5 Drlg. 1,307 ft.

Alta Verde—Brooks County

L. & W. Oil Co. No. 1 Wm. Singer, Blk. 8, Sur. 436. R.U.

Nordan & Morris No. 4 Singer, Sur. 312. Drlg. 100 ft.

Dick Young No. 5 Singer, Blk. 12, Sur. 312. Drlg. sh. (cor.) 721 ft.

Colmena—Duval County

Conservative Oil Co. No. 2 D.C.R.C.-Sentz, 133 ft. NE line, 1,200 ft. SE line, Blk. 12, sec. 51. Cg. sd. 1,412 ft.

Conservative Oil Co. No. 4 D.C.R.C., 1,585 ft. NW line, 135 ft. NE line, tr., Sur. 51. Comp. 25,000,000 ft. gas; T.D. 1,527 ft.

Conservative Oil Co. No. 4 D.C.R.C.-Sentz, 1,585 ft. NW line, 527 ft. SW line tr., Sur. 51. Tested gas 1,527 ft.; S.D.

Hooper-Rutherford, Inc. No. 1 D.C.R.C., 330 ft. NW and SW lines, 40-ac. tr., Sur. 53. Sd. 1,379-89 ft.; tested dry gas; cg. ahead.

Driscoll—Duval County

Continental Oil Co. No. 12-A Sevier, Sur. 448. T.D. 3,342 ft.; tstg.

El Mesquite—Duval County

Rogers & Rogers No. 3 Pena, El Mesquite Gr. R.U.

Government Wells—Duval County

Govt. Wells Oil Co. No. 21 Lundell, Sur. 60. Comp. 44.68 B.P.H.; T.D. 2,294 ft.

Highland Oil Co. No. 1 Hester, Sur. 47. D.&A. 2,550 ft.

Highland Oil Co. No. 2 Hester, Sur. 117. Loc.

Illinois Pet. Co. No. 1 Miller, Sur. 55. Sd. 2,335-51 ft.; Bailing in.

Magnolia Pet. Co. No. 2 Harrall, Sur. 64. Cg. sd. 2,355 ft.

Magnolia Pet. Co. No. 4 Johnson, Sur. 44. R.U.

Magnolia Pet. Co. No. 12 Johnson, Sur. 44. Top sd. 2,338 ft.; comp. 27 B.P.D.

Magnolia Pet. Co. No. 9 Lundell, SW¼, Sur. 60. T.D. 2,360 ft.; P.B. 2,275 ft.; testing.

Southwest Prod. Co. No. 3 Luptack, Sur. 41. Drlg. 1,816 ft.

Hoffman—Duval County

Bridwell Oil Co. and Gorman & Yoakum No. 1 Ruiz, 330 ft. S and W lines, 160-ac. tr., sec. 68. Loc.

Rogers & Rogers No. 7 Hoffman, Sur. 118. T.D. 2,892 ft.; drlg. plugs.

Kohler—Duval County

Humble O. & R. Co. No. 51 Kohler, 330 ft. S line, 1,650 ft. E line, Sur. 171. Sd. 2,781-83 ft.; tstd. S.W.; D.&A.

Humble O. & R. Co. No. 52 Kohler, 990 ft. N and E lines, Sur. 164. M.I.M.

Labbe—Duval County

Mills Bennett Prod. Co. and Stanolind C. & G. Co. No. 2 Yates, 330 ft. N and E lines, sec. 3. T.D. 3,510 ft.; D.&A.

Loma Novia—Duval County

Bridwell Oil Co. No. 13-A Hubbard, Sur. 71. Comp. 168 B.P.D.; sd. 2,710-28 ft.

Eastern Texas Prod. Co. No. 5 Hubbard, Sur. 71. R.U.

Humble O. & R. Co. No. 48 Hubbard, Sur. 72. Drk.

Humble O. & R. Co. No. 49-B Hubbard, Sur. 72. Drlg. sh. 1,143 ft.

Humble O. & R. Co. No. 57-B Hubbard, Sur. 72. T.D. 2,821 ft.; P.B. 2,770 ft.; W.O. pump, equip. 2,761 ft.

Humble O. & R. Co. No 13-C Welder, Sur. 554. T.D. 2,732 ft.; comp. 240 B.P.D.

Humble O. & R. Co. No. 14-C Welder, Sur. 554. Drlg. sh. 2,185 ft.

Magnolia Pet. Co. No. 47 Hahl, Sur. 67. Comp. gasser est. 10,000,000 ft.; T.D. 2,747 ft.

Pitkin & Goldston No. 7 B.C.C., Sur. 57. Comp. 64 B.P.D. on ½-in. ck.; T.D. 2,607 ft.

Shell Pet. Corp. No. 18 Mendoza, 1,739 ft. S line, 2,310 ft. W line tr., Sur. 68. Comp. 22 B.P.H. on ½-in. ck.; sd. 2,757-80 ft.

Wilson & Leach No. 2 Wright, Sur. 72. Spudded in.

Loma Vista—Duval County

Pan American Pet. Co. No. 1-H Welder, 330 ft. N and W lines, 160-ac. tr., Sur. 103. T.D. 3,006 ft.; P.B. 2,822 ft.; comp. gasser est. 7,500,000 ft.

Lopez—Webb—Duval Counties

Cox & Hamon No. 20 Peters, Sur. 322. Comp.; no gauge; sd. 2,115-20 ft.

Cox & Hamon No. 26 Peters, Sur. 322. Set csg. on sd. 2,133 ft.; drlg. plugs.

Lundell Bros. Co. No. 1 Lopez, Sur. 734. R.U.

Magnolia Pet. Co. No. 19 Peal, Sur. 796. Comp.; no gauge; T.D. 2,124 ft.

Magnolia Pet. Co. No. 22 Peal, Sur. 796. Drlg. 263 ft.

Mills Bennett Prod. Co. No. 4 Billings, Sur. 113. Comp.; no gauge; sd. 2,205-2,224 ft.

Mills Bennett Prod. Co. No. 5 Billings, Sur. 113. Drlg. 1,214 ft.

Mortimer & Springer No. 9 Paula Vela, Sur. 114. Drlg. 1,203 ft.

Peters—Duval County

Rio Bravo Oil Co. No. 1-C Peters, Sur. 398. Tstd. gas-cut mud 1,788-1,802 ft.; set csg. 1,799 ft.; drlg. plugs.

Seven Sisters—Duval County

Atlantic Ref. Co. No. 12-E Welder, Sur. 381. Set csg. on sd.; W.O.C.

Humble O. & R. Co. No. 6 Badgley, Sur. 307. Sd. 2,520-30 ft.; tstd. S.W.; recmtg.

Humble O. & R. Co. No. 7 Badgley, Sur. 307. Set csg. on sd. 2,525 ft.; W.O. pump.

Humble O. & R. Co. No. 30 Smith, Sur. 382. Sd. 2,419-33 ft.; tstd. gas; S.D.

Humble O. & R. Co. No. 31 Smith, Sur. 382. Sd. 2,446 ft.; comp. 11 B.P.H. on ½-in. ck.

Humble O. & R. Co. No. 32 Smith, Sur. 382. Sd. 2,443-63 ft.; set csg.; W.O.C.

Humble O. & R. Co. No. 33 Smith, Sur. 382. T.D. 2,463 ft.; rng. tbg.

Illinois Pet. Co. No. 10 Hazelwood, 330 ft. S and W lines, Sur. 110. Skdg. on.

Illinois Pet. Co. No. 1 Welder, Sur. 102. Sd. 2,503-12 ft.; set csg. 2,507 ft.; swbg.

Relience Oil & Roy. Co. No. 11-A Drummond, Sur. 308. Sd. 2,509-33 ft.; comp. 640 B.P.D. on ⅜-in. ck.

Relience Oil & Roy. Co. No. 14 Drummond, Sur. 309. R.U.

Wellington Oil Co. No. 9-B Welder, Sur. 383. T.D. 2,448 ft.; comp. 29 B.P.H.

Wellington Oil Co. No. 11-B Welder, Sur. 383. T.D. 2,468 ft.; comp. 16 B.P.H. on ½-in. ck.

Wellington Oil Co. No. 28 Welder, Sur. 383. M.I.M.

Westheimer & Daube No. 18 Campos, Sur. 224. T.D. 2,779 ft.; S.D.; W.O.O.

Westheimer & Daube No. 21 Campos, Sur. 224. Drlg. 1,207 ft.

Pearsall—Frio County

Amerada Pet. Corp. No. 7 Oppenheimer, 1,320 ft. W line, 330 ft. S line, Gibson Sur. 16 (workover). Drlg. 4,587 ft.

Amerada Pet. Corp. (Davis) No. 1 Halff & Oppenheimer, 329-ac. tr., J. C. Clare Sur. 336½ (workover). Drlg. 5,579 ft.

North Pettus—Goliad County

Jane Oil Co. No. 11 Mudd, B.&B. Sur. Perf. csg. 3,664-76 ft.; comp. 171 B.P.D.; sd. 3,664-89 ft.

Magnolia Pet. Co. No. 4 Weldon, 210-ac. tr., J. Gomez Sur. Drlg. 2,557 ft.

Clark—Guadalupe County

V. G. Schimmel No. 1 Hearne, 59-ac. tr., Dewitt Sur. T.D. 2,614 ft.; D.&A.

W. J. Walton No. 1 Hoffman, G. Dewitt Sur. Comp. 311 B.P.D.

H. H. Wernert No. 1 Larison, 150 ft. E line, 210 ft. N line, 85-ac. tr., Green Dewitt Sur. 13. Set csg.; T.D. 2,430 ft.; comp. 2½ B.P.D.

Mercedes—Hidalgo County

Union Sulphur Co. No. 10 American Rio Grande L. & I. Co., Blk. 50, Tr. 2,415 N. Caprisallo Dist. P.B. to sdtrk. 8,000 ft.

Mestanos—Hidalgo County

McCollum Explin. Co. No. 1-B Engleman, Lot 8, sec. 249. Digging pits.

McCollum Explin. Co. No. 1 MacDougall, Lot 232, sec. 249. M.I.M.

Pantana Pet. Co. No. 1 Harding, Lot 11, Blk. 94, Missouri-Kansas L. & I. Co., Subd. Mestanos Gr. Sd. 6,590-6,640 ft.; odor oil and gas; taking core 7,820-40 ft.; blew out of control; burning.

Samfordyce—Hidalgo-Starr Counties

Gem Oil Co. No. 3-A Seabury, Tr. 256, Porc. 38. T.D. 2,120 ft.; D.&A.

Harrison and Danvers No. 1-B Guerra, Tr. 251, Porc. 38. Drlg. sh. 2,043 ft.

Harrison and Danvers No. 2-A Villalon, Tr. 252, Porc. 39. R.U.; S.D.

Henshaw Bros. No. 2 Yturria, Tr. "B." E½ Porc. 100. T.D. 2,750 ft.; comp. 40 B.P.D. on ¼-in. ck.

Skelly Oil Co. No. 1 F. B. Guerra, Tr. 251, Porc. 38. M.I.M.

Colorado—Jim Hogg County

J. H. Meek No. 2 A. Martinez, Lot 3, Sur. 623. Sd. 2,986½-95½ ft.; 15-min. D.S.T. 2,936-3,009 ft.; 15 ft. oil and mud; no W.P.; T.D. 3,101 ft.; temp. abd.

Henne-Winch-Fariss—Jim Hogg County

Sam Payne No. 1 Holbien, 150 ft. N and W lines, Blk. 10, Share 3, Las Animas Gr. R.U.

Bentonville—Jim Wells County

Camp Drlg. Co. No. 1-B Pope, 330 ft. S and E lines, 320-ac. tr., sec. 13. R.U.

La Jita Corp. No. 2 Pope, SE¼, sec. 20. sd. 5,520-28 ft.; tstd. mud cut with oil; set csg.; W.O.C.

Premont—Jim Wells County

Francis & Simonton No. 1 A. Lozana, Jr., 185 ft. E line, 165 ft. S line, Lot 111, sec. 36. Loc.

Tom Graham No. 1 Wm. Singer, C Lots 71 and 74, Sur. 76. R.U.

Calliham—McMullen County

Loma Oil Co. No. 45-A Jacob, Jacob Sur. No. 10. No report.

National Pet. Co. No. 2-B Lark, Jacob Sur. Spdg. in.

Chicon Lake—Medina County

Chas. Wagener No. 12-A Medina Irrigation Co., Hewett Sur. M.I.M.

Ina—Medina County

Ina O. & R. Co. No. 3 Viola Wilson, Durst Sur. Drlg. 197 ft.

Agua Dulce—Nueces County

Texon Drlg. Co. No. 1 Clara Driscoll Sevier, 466 ft. S and W lines, 880-ac. tr., W. W. Chapman Lds. No report.

United Prod. Corp. No. 2 W. W. Walton, Lot 5, Sh. 1, Chapman Lands Subd. Loc.

Clara Driscoll—Nueces County

W. D. Hines No. 1 Sevier, 280 ft. S and E lines, W¼, sec. 60. Drlg. 4,857 ft.

Wellington Oil Co. of Del. No. 6 Sevier, 1,650 ft. S line, 330 ft. E line tr., Wm. Gambel Sur. Sd. 3,803-12 ft.; D.S.T.; 15 lbs. W.P., 525 ft. oil in 8 min.; set csg. 3,802 ft.; W.O.C.

Flour Bluff—Nueces County

Costa Oil Co. No. 1 Henderson, 530 ft. E line, 660 ft. S line, Lot 10, sec. 48. Sd. 6,606-92 ft.; comp. 150 B.P.D. on ¼-in. choke.

Gem Oil Co. No. 2 Smith, sec. 47. T.D. 6,660 ft.; set csg. 6,650 ft.; completing.

Humble O. & R. Co. No. 1 Edwards, C Lot 24, Blk. 48. Drlg. 5,647 ft.

Humble O. & R. Co. No. 2 Phillips, C Lot 2, Blg. 48. Drlg. 5,616 ft.

Humble O. & R. Co. No. 1 Rankin, C Lot 27, Blk. 47. Drlg. 6,619 ft.

Humble O. & R. Co No. 1 Robertson, C Lot 23, Blk. 47. Sd. 6,613-53 ft.; 15-min. D.S.T. 6,648-65 ft.; 2,000 ft. oil, no S.W.; set csg.; W.O.C.

S. Paul No. 1 Moulter, Blk. 16, sec. 41, Encinal Garden tracts. Loc.

Saxet Heights—Nueces County

R. B. Bryant No. 1 Davis & Olton, Villareal Sur. Drlg. 617 ft.

J. K. Culton No. 7 Baldwin, Blk. 19, Russell Farm Trs. Sd. 4,073-83 ft.; set csg. 4,083 ft.; W.O.C.

Genaco & Roosth et al No. 1 Wilson Realty Co., cen. Lot 28, Country Club Pl. Sd. 4,076-85 ft.; set csg. 4,085 ft.; W.O.C.

C. F. McGrew No. 2 Kelly, 19.3-ac. tr. Sd. 4,047-85 ft.; comp. 200 B.P.D.

Morgan Bros. No. 2 Bender, Blk. C, Harbor View Estates. T.D. 4,085 ft.; failed to flow; S.D.

W. N. Paul No. 2 Schallert, cen. Blk. "C," Harbor View Addn. S.D. 1,800 ft.; W.O.

Pedernal Oil Co. No. 1 John, Blk. 14, Oak Park Addn. S.D. 4,110 ft.; orders.

Pedernal Oil Co. No. 1 McCaughan, cen. Blk. 17, Oak Park Addn. Set csg.; sd. 4,071-84 ft.; T.D. 4,089 ft.; drlg. in.

Port O. & G. Co. No. 2 Corpus Christi College, 39.6-ac. tr. Set sur. csg. 500 ft.; W.O.C.

Power Prod. Co. No. 1 Savage, cen. 1-ac. tr., Country Club Addn. Sd. 4,058-85 ft.; came in as gasser; recmtg.

J. D. Proctor No. 1 Simonton, 100 ft. E line, 68 ft. N line, 1-ac. tr., Lots 46 and 47, Country Club Pl. Sd. 4,070½-83 ft.; set csg.; completing.

Reed & Cox No. 2 Lawrence, 32-ac. tr. Drlg. 3,527 ft.

Renwar Oil Corp. and Maryland Corp. No. 3 Guaranty Title & Trust Co., Lot 9, Blk. 2, Villa Gardens Addn. Sd. 4,075-81 ft.; comp.; no gauge.

Saxet O. & G. Co. No. 1 Edwards, 32-ac. tr. S.D. 4,073-79 ft.; set csg. 4,080 ft.; reworking.

Taylor Pet. Co. No. 3 Dunn, 52.73-ac. tr. Drk.

Taylor Pet. Co. No. 1 Incarnate Word Academy, 40-ac. tr., Villareal Sur. Sd. 4,044-75½ ft.; perf. 4,068-71 ft.; cleaning out pits.

W. A. R. Oil Co. No. 2 Dunn, 53-ac. tr., Villareal Sur. Sd. 4,070-86 ft.; set csg. 4,120 ft.; cleaning into pits.

Sam Wilson No. 1 Blucher, Lot 19, Blk. 2, Oak Park Addn. Sd. 4,053-68 ft.; set csg. 4,053 ft.; drlg. plugs.

Saxet—Nueces County

C. Andrade No. 2 Frank, 28.3-ac. tr., Sur. 416. Set sur. csg.; S.D.

R. B. Bryant No. 4 Frank, 330 ft. N and W lines, 40-ac. tr., Sur. 416. Sd. 5,834-41 ft.; perf. 5,756-63 ft.; comp. gasser and dist. producer.

R. B. Bryant No. 3 Scoggin, 20-ac. tr., Sur. 316. Sd. 4,466-72 ft.; comp.; no gauge.

R. B. Bryant No. 4 Scoggin, 660 ft. S No. 3, 330 ft. W line tr., Sur. 315. M.I.M.

Conroe Drlg. Co. No. 7 Bliss, 330 ft. N and E lines, 80-ac. tr. Sd. 5,819-29 ft.; set csg. 5,829 ft.; W.O.C.

Conservative Oil Co. No. 2 Morgan, 330 ft. S and W lines, W½ NW¼, sec. 405. Drk.

Great States Oil Co. and Violet Oil Co. No. 2 McGregor-Belk, Sur. 311. Set csg. 5,830 ft.; sd. 5,817-30 ft.; completing.

Great States Oil Co. and Violet Oil Co. No. 5 McGregor-Belk, Sur. 311. Sd. 5,817-31 ft.; set csg. 5,824 ft.; comp.; no gauge.

Great States No. 6 McGregor-Belk, 330 ft. E line, 920 ft. N line lse., Sur. 311. M. I.M.

Hiawatha Oil Co. No. 6 Griffith, 330 ft. S line, 3,084 ft. E line, Sur. 416. Drlg. 3,087 ft.

Hiawatha Oil Co. No. 1 Hutchins-Stillwell, 175 ft. W line, 1,200 ft. S line, Sur. 311. Stdg. 4,257 ft.

Hiawatha Oil Co. No. 3 Morgan, 330 ft. S and E lines, E½, SE¼, sec. 405. Cg. 4,081 ft.

Hiawatha Oil Co. No. 3-A Smith, Blk. 35, Sheppard Farm Lots. Drlg. 4,397 ft.

Hiawatha Oil Co. No. 2-B Smith, Blk. 35, Sheppard Farm Lots. Drlg. 4,786 ft.

Hinton No. 3 Cole, 330 ft. N and E lines, 59-ac. tr., Villareal Gr. Sd. 4,840-87 ft.; set csg.; W.O.C.

Howell & Hawkins No. 1 Page Bros., 50-ac. lse., Sur. 416. T.D. 6,809 ft.; set csg. 6,492 ft.; perf. 6,328-30 ft.; swbg.

Houston Oil Co. No. 2-A fee, 23.6-ac. tr. Cg. 6,027 ft.

Houston Oil Co. No. 8 McGregor, 135-ac. tr., Sur. 582. Cg. hd. sdy. sh. 5,817 ft.

Houston Oil Co. No. 9 McGregor, 135-ac. tr., Sur. 582. Drk.

Houston Oil Co. No. 13 Rand Morgan, 494-ac. tr. Sd. 4,410-21 ft.; set csg. 4,414 ft.; W.O.C.

Magnolia Pet. Co. No. 3 Walton, Villareal Sur. Set csg. 4,852 ft.; drld. plugs to 4,876 ft.; comp. 120 B.P.D.

Mills Bennett Prod. Co. No. 2 Kassner, 100-ac. tr., SE¼ Sur. 409. Sd. 4,079-86 ft.; comp. 11 B.P.H. on ¼-in. ck.

Mills Bennett Prod. Co. No. 3 Kassner, 330 ft. N and E lines, 100.91-ac. tr., SE¼ sec. 409. Set sur. csg.; W.O.C.

Mills Bennett Prod. Co. No. 2 Ordner, 1,330 ft. N and E lines, Sur. 410. Spudded.

Oso Drillers, Inc., No. 4 Roark, 660 ft. E line, 1,200 ft. S line, 106-ac. tr. R.U.

Pan American Prod. Co. No. 2-A Sagarin, 1,000 ft. W line, 330 ft. N line, 89.57-ac. tr. Drlg. 4,482 ft.

Pan American Prod. Co. No. 2-B Sagarin. 660 ft. N No. 2-A, 330 ft. W line, C.E.I. P.&M. Sur. Set 16-in. csg. 160 ft.; W.O.C.

Renwar Oil Corp. No. 3 R. Morgan, 60-ac. tr., Sur. 315. Sd. 4,550-70 ft.; set csg. 4,558 ft.; W.O.C.

Republic Nat. Gas Co. No. 14 Dunn, Blk. 37, Sheppard Farm Lots. Cg. 5,816 ft.

Richardson Pet. Co. No. 2 Cain et al, Blk. 23, Russell Farm Lots. Sd. 4,430-38 ft.; set csg. 4,429 ft.; comp. 256 B.P.D. on 5/32-in. ck.

Richardson Pet. Co. No. 3 Cain & Secrist, 890 ft. N line, 330 ft. W line, Blk. 23, Russell Farm Lots. M.I.M.

Richardson Pet. Co. No. 2 Harrell, Blk. 33, Sheppard Farm Lots. T.D. 6,635 ft.; sd. 6,311-36 ft.; tstg.

Richardson Pet. Co. No. 2 Quiros, Blk. 40, Sheppard Farm Tr. (W.O.). P.B.T.D. 4,-798 ft.; old T.D. 4,879 ft.; M.I.M.

Reesto Drlg. Co. No. 2 Harmon, 20-ac. tr., Sur. 416. T.D. 5,883 ft.; set csg.; W.O.C.

Southern Minerals Corp. No. 1 Bernson, 330 ft. N and E lines, 120.45-ac. tr., Sur. 40. Drk.

Southern Minerals Corp. No. 3 Bliss, 120-ac. tr., Stevens Sur (workover). Drlg. 5,693 ft.

Southern Minerals Corp. No. 17 Bliss, 120-ac. tr., Stevens Sur. Sd. 5,825-32 ft.; set csg.; W.O.C.

Southern Minerals Corp. No. 6 Isensee, 330 ft. N line, 990 ft. W line, 235-ac. tr., C. Land Sur. 404. Sd. 6,282-90 ft.; comp.; no gauge, dist.

Southern Minerals Corp. No. 4 Mastin, 125-ac. tr., Franks Sur. 416. Drlg. 3,483 ft.

Southern Minerals Corp. No. 7 Ocker, 202-ac. tr., Land Sur. Sd. 4,857-61 ft.; drld. plugs; comp.; no gauge.

Southern Minerals Corp. No. 8 Ocker, 330 ft. N and E lines, 202-ac. tr., Page Lands Sur. Cg. 4,396 ft.

Southern Minerals Corp. No. 1 Till, 990 ft. S line, midway E and W lines, 52.6-ac. tr., Page Lands Sur. Cg. 5,712 ft.

Texon Drilling Co. No. 2 Isensee, 150 ft N line, 112 ft. W line, 13.44-ac. tr., C. Land Sur. 404. Spudded.

Texon Drlg. Co. No. 4 Ocker, 160-ac. tr., Surs. 402 and 316. Drlg. 4,423 ft.

Texon Drlg. Co. No. 4 Scoggin, 660 ft. S No. 2, 330 ft. E line, N 50-ac. tr., Sur. 315. Spd. in.

Texon Drlg. Co. No. 4 Vance, 660 ft. N No. 1, 330 ft. E line, 253.67-ac. tr., Gallagher Sur. R.U.

W.A.R. Oil Co. No. 2 Buckholt, Lot 4, Buckholt Part. Drlg. 3,607 ft.

W.A.R. Oil Co. No. 1 Hoelscher, 2,870 ft. N line, 330 ft. W line, Blk. 22, J. C. Russell Farm Trs. Set sur. csg.; W.O.C.

Wynne Drlg. Co. and Coker No. 2 Morgan, 160-ac. tr., G.S.&F. Sur. Sd. 4,560-67 ft.; S.D.

Plymouth—San Patricio County

Magnolia Pet. Co. No. 9 C. C. Banks, Fessendon & Hunter Sur. Drlg. 6,336 ft.

Plymouth Oil Co. No. 61-C Welder, sec. 49. T.D. 4,988 ft.; drlg. in sdtrkd. hole 4,512 ft.

Plymouth Oil Co. No. 62-C Welder, sec. 71. Drlg. 5,463 ft.

Plymouth Oil Co. No. 64-C Welder, sec. 71. set surf. csg. 383 ft.; S.D.

Stanolind O. & G. Co. No. 1 Corpus Christi Land Bank, Lot 2, sec. 24, Fourth Addn. Set csg. 1,100 ft.; W.O.C.

Sun Oil Co. No. 2 Rountree, Blk. 34, T.D. 6,010 ft.; P.B. to test sd. 5,653 ft.

Taft Field—San Patricio County

Atlantic Oil Prod. Co. No. 1 Pullin, 40-ac. tr., Lot 4, Blk. 1, Second Addn. Sd. 3,993-4,000 ft.; set csg. 4,000 ft.; drlg. in.

Conroe Drlg. Co. No. 5 Pullin, Lot 4, sec. 1. D.S.T. 4,915-32 ft.; 2,800 ft. oil; set 7-in. csg. 4,931 ft.; W.O.C.

Humble O. & R. Co. No. 7 Mayo, 150 ft. S and E lines, 640-ac. tr., Ottman Sur. Drk.

Humble O. & R. Co. No. 9 Mayo, 540-ac. tr., Ottman Sur. T.D. 3,991 ft.; rng. tbg.

Humble O. & R. Co. No. 10 Mayo, Wm. Burns Sur. Drlg. 4,937 ft.

Shell Pet. Corp. No. 4 Pullin, Lot 1, Blk. 4, Second Addn. Sd. 4,911-20 ft.; comp. 390.56 B.P.D. on ¼-in. ck.

Shell Pet. Corp. No. 5 Pullin, 800 ft. N line, 330 ft. W line, 50-ac. tr., sec. 1, Second Addn. R.U.

Taft Dev. Co. No. 1 Britton, 330 ft. N and W lines, W 40-ac. tr., Lot 1, sec. 6, Third Addn. T.D. 4,966 ft.; D.&A.

White Point—San Patricio County

Earl Calloway No. 1 White Point Dev. Co., 330 ft. E line, midway N and S lines, G. Seguin Sur. No. 5. T.D. 6,512 ft.; P.B. to 3,700 ft.; to whipstock.

Margo—Starr County

A. A. Kelly No. 1 Gonzales, Sh. 62, Porc. 71. Sd. 346-49½ ft.; comp. gasser; shut in.

J. W. Richards No. 1 Garcia, Sh. 7-B, Porc. 71. Sd. 340-46 ft.; comp. gasser.

Rio Grande City—Starr County

Sam Adams No. 1 Garza, Sh. 20-A, Porc. 80. S.D. 524 ft.

Coreta Oil Co. No. 5 Doyno, Blk. 1, Tr 77-A, Porc. 81. Spudded; S.D.

Tech Oil Co. No. 1 F. Doyno, Porc. 81. Drlg. 614 ft.

Carolina-Texas—Webb County

F. T. Sawyer No. 2 Webster 330 ft. S line, 1,980 ft. W line, Sur. 684, Fag. 3,-950 ft.

Cole—Webb County

L. H. Sexton No. 1 R. Benavides, Blk. 4, Sur. 22, Cole Subd. Sd. 1,680-82 ft.; tstg.

Lopez—Webb-Duval Counties

Cox & Hamon No. 3 Peters, 330 ft. S line, 585 ft. W line, Sur. 322. Comp. 200 B. P.H.; T.D. 2,169 ft.

Cox & Hamon No. 4 Coates & Peters, 40-ac. tr., Sur. 322. Comp. 22 B.P.H.; sd. 2,144-51 ft.

Cox & Hamon No. 9 Peters, Sur. 322. Sd. 2,119-26 ft.; Comp.; no gauge.

Cox & Hamon No. 10 Peters, Sur. 322. Sd. 2,135-44 ft.; comp.; no gauge.

Cox & Hamon No. 15 Peters, Sur. 322. Sd. 2,102-07 ft.; comp. 600 B.P.D.

Magnolia Pet. Co. No. 20 Peal, Sur. 383. Sd. 1,143-45 ft.; set csg.; drlg. in.

Mills Bennett Prod. Co. No. 3 Billings, Sur. 113. Comp. 20 B.P.H.; T.D. 2,217 ft.

Mills Bennett Prod. Co. No. 8 M. Lopez, Sur. 73. M.I.M.

Mortimer & Springer No. 6 J. Lopez, Sur. 73. Top sd. 2,183 ft.; comp. 18 B.P.H.

Mortimer & Springer No. 7-B Peal, Sur. 796. Top sd. 2,162 ft.; set csg.; drlg. plug.

Mortimer & Springer No. 8 Paula Vela, Sur. 114. Sd. 2,216-21 ft.; comp. 15 B. P.H.

Superior Oil Co. No. 10 Billings, Sur. 109. Drk.

O'Hern—Webb County

Cole Pet. Co. No. 1 Benavides, Blk. 483, Hale Subd. S.D. 2,845 ft.

Hamil & Smith No. 5 Benavides, Hale Subd. Drlg. 1,314 ft.

Hamil & Smith No. 10 Benavides, Hale Subd. No report.

Hamil & Smith No. 27 Benavides, Blk. 499, Hale Subd. Drlg. 2,074 ft.

Magnolia Pet. Co. No. 13 S. Benavides, Blk. 5, O'Hern & Seacord Subd. T.D. 2,688 ft.; comp. 150 B.P.D.

Magnolia Pet. Co. No. 14 S. Benavides, Hale Subd. Drlg. 511 ft.

Porter & Blanchard No. 5 Benavides, Hale Subd. Drlg. 517 ft.

H. M. Reed No. 3 S. Benavides, Blk. 247, Hale Subd. Cg. 2,938 ft.

H. M. Reed No. 4 Benavides, Blk. 299, Hale Subd. Loc.

Starr Dev. Co. No. 1 Benavides, 330 ft. N and W lines, Sur. 173, M.I.M.

Starr & Killam No. 1 Bruni, 330 ft. N and NW lines, Sur. 585. Spudded.

Charco Redondo—Zapata County

W. C. Bob No. 1 Martinez, 150 ft. NW and NE lines, Blk. 22, Randado Gr. Spudded; S.D. 50 ft.

Cuellar—Zapata County

Nordan & Morris No. 1 Cuellar, 2,970 ft. SE line, 3,150 ft. NE line, tr., Cerrito Blanco Gr. Spudded.

Escobas—Zapata County

F. Schneider No. 1 Garza, Blk. 20, A. C. Douglas Subd., Zorro ranch. Sd. 1,302-12 ft.; comp. 125 B.P.D.

Texas Co. No. 94 Jennings, 250 ft. S No. 7, Cerrito Blanco Gr. Drk.

Haynes—Zapata County

Gilcrease Oil Co. No. 11-B Haynes, Blk. 4, Haynes Subd. T.D. 974 ft.; comp. 5 B.P.D.

Gilcrease Oil Co. No. 12-C Haynes, Blk. 8, Haynes Subd. Skdg. on.

Mid-Continent Pet. Corp. No. 7 Haynes, Blk. 8, Haynes Subd. Sd. 799-814 ft.; comp. 9 B.P.D. on pump.

Nordan & Morris No. 16-A Haynes, Blk. 7, Haynes Subd. Comp. 46 B.P.D.; T.D. 1,076 ft.

United Prod. Corp. No. 1 Haynes, Blk. 13, Haynes Subd. Loc.

E. C. TEXAS WILDCATS

Anderson County

Neversuch Oil Co. No. 1 John Adams, Long Lake field. Top sd. 5,300 ft.; S.D. 5,311 ft.

Angelina County

C. D. Neff No. 1 Long Bell Lbr. Co., J. F. Gilbert Sur., 6½ mi. NW of Huntington. Cg. 1,922 ft.

W. A. Stone et al 1 Southern Pine Lbr Co., B. J. Thompson Sur., 8 mi. SE Lufkin. Drk.

Cherokee County

A. F. Richardson No. 1 F. P. O'Brien, G. S. Clapp Sur., 3 mi. NW of Rusk; 5,000-ft. test. Loc.

Falls County

R. M. Heffiin No. 1 T. E. Battle, Marl Sur., 3 mi. SW of Marlin. Top Edwards 1,325 ft.; S.D. 2,082 ft.

Thirteen Oil Co. No. 1 H. R. Roberts, N. Slatter Sur., 6 mi. SE of Lott. R.U.

Fannin County

S. W. Ball No. 1 A. G. Byers, in W. Bailey Sur., 5 mi. N of Leonard. Drlg. 547 ft.

Joiner & Owens No. 1 Goss-Morgan, 270 ft. from S and 170 ft. from W of 100-acre tract, J. Stephens Sur., 16 mi. N of Honey Grove. S.D. 143 ft.

Valeria Oil Co. No. 1 Galloway, Wm. M. Rice Sur., 1½ mi. S of Leonard. S.D. 3,129 ft.

Freestone County

Yancey et al No. 1 Scott, Church Lot, H. Awalt Sur. W of Stewartsville. S.D. 1,500 ft.

Red Lake Oil Co. No. 1 M. Wheeler, J. Aguilera Sur. Set csg. 4,954 ft.

Velvet Oil Co. No. 1 Beauchamp, 3,400 ft. N and 314 ft. E of H. Sheppard Sur., 2 mi. N of Fairfield. Spudded.

Henderson County

McDougal et al No. 1 E. Price, M. Mathews Sur., 4 mi. S of Trinidad. S.D. 50 ft.

Sparks et al No. 1 Berry, Young Sur., 5 mi. S of Brownsville. S.D. 100 ft.

Hunt County

Penn Oil Corp. et al No. 1 A. B. Manning, 5 mi. NE of Lone Oak, S. Owens Sur. Drk.

Lamar County

Lowery-Cutler No. 1 E. C. Porter, 300 ft. S and E of 98-ac. tr., Thos. King Sur. Drk.

Leon County

Roth & Faurot No. 1 J. L. Shaw, 1,750 ft. from N and 700 ft. from E of 254-acre tract, O. R. Reams Sur., 5 mi. N of Centerville. M.I.R.

Nacogdoches County

J. C. Bonhan et al No. 1 Angelina Lbr Co., in J. Gomez Sur., 14 mi. SE of Nacogdoches. Drlg. 3,010 ft.

Collier et al No. 1 A. T. Mast, T. J. Lambert Sur. Drk.

Navarro County

Ed Bateman et al No. 1 S. P. Love. Drlg. 3,979 ft.

Rains County

Humble and Tide Water Oil Co. No. 1 Easter, 439 ft. N and 522 ft. E of 39.75-ac. tr., R. Hotchkiss Sur., 5 mi. NW Alba. M.I.R.

Red River County

Carpenter Oil Co. No. 1 R. E. Anderson, 400 ft. from N and 1,500 ft. from W of 100-acre tract, S. W. Sims Sur., 3 mi. N of Clarksville. R.U.

M. Petroff et al No. 1 R. G. Morris, J. Guest Sur., 2 mi. W of Detroit. S.D. 20 ft.

C. Sneed et al No. 1 Hocker-Hughes. S.D. 2,720 ft.

Robertson County

J. E. Mills No. 1 T. Congelosi, C of 75-ac tr in G. A. Nixon Sur., 3½ mi. SW of Hearne. Drlg. 2,272 ft.

Rusk County

John W. Merritt No. 1 J. A. Stallings, T. Uzzell Sur., 2½ mi. S of East Texas field. S.D. 1,920 ft.

Upshur County

J. K. Wadley No. 1 R. C. Barnwell, 330 ft. from N and W of 158-acre tract, J. T. Loyd Sur., 5 mi. SW of Coffeyville. Drlg. 2,720 ft.

R. L. Watson No. 1 W. O. Irwin, D. Cannon Sur., NE cor. of county. Drk.

J. K. Wadley No. 1 Barnwell. Top sd. 4,-038 ft.; cg. 4,045 ft.

Wood County

G. W. Nix et al No. 1 E. A. Russell, J. Delap Sur., SW cor. of county. Drlg. 577 ft.

EAST TEXAS

(Border Counties)

Cass County

American Lib. No. A-3 Baugus, J. H. Rives Sur., Lot 12. Drlg. 800 ft.

American Liberty No. 4-A Baugus, J. H. Rives Sur. Drlg. 2,010 ft.

American Liberty No. 1 Dawson et al, on Dawson tr., J. H. Rives Sur. Drlg. 5,445 ft.

American Liberty No. 1 Sheppard, J. H. Rives Sur. T.D. 6,014 ft.; prep. rng. csg.

American Liberty No. 1 Wiley, 58-ac. tr., James Davenport Sur. Drlg. 4,950 ft.

American Liberty No. 2 J. Wiley, SE cor. 58.86-ac. tr., J. Davenport Sur. 9-in. cmt. 1,958 ft.; T.D. 1,976 ft.

Bay Oil Co. No. 1 G. E. Parker, SE cor. Greenham Sur. Cg. 5,980 ft.

Gulf Prod. Co. No. 1 Dawson et al, NE cor. of tr., J. H. Rives Sur. Drlg. 4,985 ft.

Herman L. Brown No. 2 R. P. Willis, on 31½-acre trk. in Robert Trammel Sur. Drlg. 650 ft.

H. L. Hunt No. 1 I.N.&C.L. Shelton, SE cor. 202-ac. tr., J. Davenport Sur. Drlg. 4,205 ft.

W. F. Lacey No. 1 J. Lewis, NW cor. B. E. Echols 17.4-ac. lse., H. Holbert Sur. R.U.

Magnolia Pet. Co. No. 4 J. E. George, NE cor. 141-ac. lse., John Collum Sur. Comp.; gas, 3,300,000 ft.; T.D. 6,045 ft.

Magnolia No. 5 J. E. George, SW cor. John Collum Sur. Drlg. 5,500 ft.

Magnolia No. 6 J. E. George, SW cor. John Collum Sur. Drlg. 5,136 ft.

Magnolia No. 7 J. E. George, SE cor. John Collum Sur. Loc.

Magnolia No. 8 J. E. George, SE cor. John Collum Sur. Loc.

Magnolia No. 1 Meda Green, SW cor. J. Davenport Sur. Drk.

Magnolia No. 2 Meda Green, SW cor. J. Davenport Sur. Drlg. 5,410 ft.

Magnolia Pet. No. 3 Meda Green, James Davenport Sur., SE cor. 73-ac. lse. Drk.

Magnolia No. 4 Meda Green, on Jesse Baugus 60-ac. tr., J. Davenport Sur. 16-in. 230 ft.; W.O.C.S.

Magnolia No. 8 A. S. Hall, SE cor. James Young Sur. Drlg. 3,900 ft.

Magnolia Pet. Co. No. 4 Haywood, SW cor. Haywood Tr., John Collum Sur. Rng. 7-in.; T.D. 6,015 ft.

Magnolia Pet. Co. No. 1 J. J. Moore, J. Collum Sur., 330 ft. N, 418 ft W. SE cor. 118-ac. tr. Perfg. csg. and tstg.; T.D. 5,930 ft.

Magnolia No. 1 Noel Estate, NE cor. Wm. B. Hughes Sur. Drlg. 5,209 ft.

Magnolia Pet. Co. No. 5 Rives, SE cor. John Collum Sur. Cmt. 7-in. 6,002 ft.; T.D. 6,035 ft.; W.O.C.S.

Magnolia No. 6 Rives, SW cor. 425-ac. tr., Robert Trammel Sur. Drlg. 5,617 ft.

Magnolia No. 7 Rives, NE cor. John Collum Sur. Drlg. 1,780 ft.

Magnolia No. 8 Rives, NE cor. John Collum Sur. Drlg. 4,121 ft.

Magnolia No. 9 Rives, NE cor. John Collum Sur. Drlg. 2,540 ft.

Marathon Oil Co. No. 3 R. P. Willis, 660 ft. S of Superior A-1 Chew, S.F.I.W. Sur. 7-in. cmt. 5,946 ft.; T.D. 5,975 ft.; W.O. C.S.

R. W. Norton No. 3 A. S. Hall, NW cor. E. E. Hill 60-ac., John Collum Sur. T.D. 6,097 ft.; S.D. will rework.

R. W. Norton No. 2 J. T. Moore, 940 ft. W of No. 1, Wm. R. Myers Sur. Drlg. 5,730 ft.

Ohio Oil Co. No. 4 R. P. Willis, S.F.I.W. Sur. Drlg. 3,834 ft.

Ohio Oil Co. No. 5 R. P. Willis, S.F.I.W. No. 1263 Sur. Drk.

Ohio Oil Co. No. 6 R. P. Willis, 1,226 ft. SE of No. 2, S.F.I.W. No. 1,263 Sur. Drlg. 3,842 ft.

Ohio Oil Co. No. 7 R. P. Willis, S.F.I.W. No. 1,263 Sur. Loc.

Ohio Oil Co. No. 10 R. P. Willis, 933 ft. S of No. 4, S.F.I.W. No. 1,263 Sur. Drk.

Phillips Pet. Co. No. 1 Chew, SE cor. 207-ac. lse., Robt. Trammel Sur. Loc.

Phillips Pet. Co. No. 2 Chew, 1,460 ft. N, 326 ft. W, SE cor. W. D. Chew 207-ac. lse., Robt. Trammel Sur. Loc.

Phillips Pet. Co. No. 3 Chew, 2,324 ft. N, 326 ft. W, SE cor. W. D. Chew 207-ac. lse., Robt. Trammel Sur. R.U. and S.D.

Phillips Pet. Co. No. 2 Farrier, on 200-ac. tr., Wm. Myers Sur. Loc.

Phillips Pet. Co. No. 1 G. E. George, Wm. R. Myers Sur. Drlg. 3,524 ft.

Phillips Pet. Co. No. 1 Skinner, Hutchinson tr., S.F.I.W. Sur. No. 1,025. Loc.

Phillips Pet. Co. No. 2 Skinner, Hutchinson tr., S.F.I.W. Sur. No. 1,025. Cellar.

Phillips Pet. Co. No. 3 Skinner, 160-ac. tr. in S.F.I.W. Sur. No. 1,025. Loc.

Phillips Pet. Co. No. 1 Wartzbaugh, Robt. Trammel Sur., 431 ft. S of N line and 490 ft. W of E line. Flwg. and tstg.; T.D. 6,044 ft.

Phillips Pet. Co. No. 2 Wartzbaugh, Robt. Trammel Sur., 134 ft. S of N line and 496 ft. W of E line. Comp.; flwg. 16 B.P.H.; ¼-in. tbg. ck.; T.D. 6,030 ft.

Phillips Pet. Co. No. 3 Wartzbaugh, 438 ft. N and midway between E and W line of lse., Robt. Trammel Sur. Drlg. 5,540 ft.

Phillips Pet. Co. No. 1 M. Wasson, W. R. Myers Sur., 27-ac. tr. Drlg. 1,472 ft.

Showers & Moncrief No. 5 T.H. and Sallie Stalcup, Robt. Trammel Sur. Drlg. 4,-926 ft.

Showers & Moncrief No. 6 T. D. and Sallie Stalcup, Robt. Trammel Sur., 330 ft. S and 1,338 ft. W line. Loc.

Showers & Moncrief No. 8 T. D. and Sallie Stalcup, Robt. Trammel Sur., midway between E and W line of lse. Loc.

Spray Oil Co. No. 1 Scott, 25-ac. lse., midway N and S, Robt. Trammel Sur. Drk.

Spray Oil Co. No. 2 Scott Adams, 25-ac. tr., Robt. Trammel Sur. Loc.

Superior Oil No. 5-A Chew, W.D.&C.C. Track, Robt. Trammel Sur. Drlg. 3,900 ft.

Texas Co. No. 1 W. M. Hall, A. Archer Sur. Drlg. 5,962 ft.

Texas Co. No. 2 W. M. Hall, Alex Archer Sur., 664 ft. W of E line. Loc.

Texas Co. No. 3 W. M. Hall, Alex Archer Sur., 665 ft. W of E line and 675 ft. S of No. 2 Hall. Loc.

Texas Co. No. 4 W. M. Hall, Alex Archer Sur., 665 ft. W of E and 337 ft. N of S line of 164-acre trk. Loc.

Texas Co. No. 1 J. B. McLeod, W. A. Elliott Sur., 1,416 ft. W of E and 466 ft. S of N, 160-ac. tr. Drlg. 4,700 ft.

Texas Co. No. 2 J. B. McLeod, W. A. Elliott Sur., 440 ft. E of W and 495 ft. S of N line of 160-acre trk. Loc.

Tide Water No. 1 W. D. Chew, Robt. Trammel Sur., 150 ft. N of S line, midway between E and W lines of 20-ac. lease. Derrick.

Tide Water No. 2 W. D. Chew, on 55-ac. tr., Robt Trammel Sur. Reacidized; will not flow; T.D. 6,010 ft.; W.O.

Tide Water No. 2 C. C. Chew, on 55-ac. tr., Robt. Trammel Sur. Drlg. 260 ft.

United Prod. Co. No. 1 Bewley, H. Holbert Sur., 330 ft. S and W NW cor. of Susie Chatten 160-ac. tr. Drlg. 2,185 ft.

United Prod. Co. No. 2 Bewley, 467 ft. N and W of So. SW cor. George 200-acre tr. Drlg. 2,265 ft.

United Prod. Co. No. 3 J. R. Jones, Ben J. Murray Sur. Loc.

United Gas No. 5 J. R. Jones on 18-ac. tr., John Collum Sur. Tstg.; T.D. 6,065 ft.; set short stg. 5-in.

United Prod. Co. No. 6 J. R. Jones Unit, SE cor. Ben J. Murray Sur. Drlg. 350 ft.

United Prod. Co. No. 7 J. R. Jones Unit, SE cor. Ben J. Murray Sur. Loc.

United Prod. Co. No. 8 J. R. Jones Unit, SE cor. Ben J. Murray Sur. Loc.

United Prod. Co. No. 1 Rambo Unit, Robt. Trammel Sur., 330 ft. N and W SE cor. Maden Rambo 40-ac. tr. Drlg. 1,-625 ft.

United Prod. Co. No. 2 Rambo Unit, 330 ft. S 385 ft. W NE cor. Maden Rambo 25-ac. tr., Robt. Trammel Sur. 16-in. cmt. 251 ft.; W.O.C.S.

United Prod. No. 3 Rambo Unit, 385 ft. W of westerly SW cor. of Stalcup trk., Robt. Trammel Sur. Drlg. 2,175 ft.

United Prod. No. 4 Rambo Unit, 330 ft. S and 385 W NW cor. Stalcup 20-ac. trk., Robt. Trammel Sur. Drlg. 2,160 ft.

United Prod. No. 5 Rambo Unit, Robt. Trammel Sur., 150 ft. N and 311 ft. W of SE cor. H. A. Trammel 183-ac. trk. Drlg. 2,195 ft.

United Prod. No. 6 Rambo Unit, Robt. Trammel Sur., 150 N. 814 W SE cor. H. A. Thomas 83-ac. tr. Drlg. 1,623 ft.

United Prod. Co. No. 4 F. S. Simpson, on 160-ac. tr., James Young Sur. P.B. to 6,025 ft.; swb. and test; old T.D. 6,071 ft.

United Prod. Co. No. 7 J. T. Stewart, M. Stewart 49-ac. lse., John Collum Sur. Drlg. 4,960 ft.

United Prod. No. 8 J. T. Stewart Unit, John Collum Sur. of 81.9-ac. tr. Drk.

United Prod. Co. No. 1-A J. T. Wall, Alex Archer Sur. on Wall 82-ac. tr. Comp.; flw. 49 B.P.H.; ½-in. tbg. ck.; T.D. 6,090 ft.

United Prod. Co. No. 2-A J. T. Wall, Alex Archer Sur. on Wall 82-ac. tr. Drlg. 6,040 ft.

United Prod. No. 3-A J. T. Wall, Alex Sur., on J. T. and J. D. Wall 82-ac. trk. Drlg. 1,521 ft.

United Prod. No. 4-A J. T. Wall, Alex Sur., on J. T. and J. D. Wall 82-ac. trk. Loc.

Harrison County

W. F. Bridewell et al No. 1 Clapp, F. C. Baker Sur. T.D. 5,167 ft; S.D.

Geyer Oil Co. No. 2-A Vincent, S. B. Harrison Sur. Drlg. 2,166 ft.

Hanover, Bergendoli et al No. 1 Buchanan, Wm. McIlvain Sur. Drlg. 4,260 ft.

Marion County

Tom Bell et al No. 1 David Lane, SW C Log 2 Jones Sur. 12-in. cmt. 72 ft. W.O.C.S.

Panola County

Danciger O. & R. Corp. No. 1 Tatum, SW cor. A. Bissell Sur. Drk.

A. C. Glassell No. 1 Frost Lbr. Industries SW cor. Mary S. Potts Sur. T.D. 6,002 ft.; comp.; gauge 3,000,000 ft. gas and 3 bbls. dist. per hr.

Gulf Oil Corp. No. 1 Pierce & Chesbro J. H. Shahan Sur. T.D. 5,455 ft.; D.&A.

Lawrel Pet. Co. No. 1 Bucknell, B. Anderson Sur. M.I.M.

Logansport P. L. Corp. No. 1 Rushing, M. Smith Sur. T.D. 2,734 ft. (cor.); rng. 7-in. to test gas show.

Magnolia Pet. Co. No. 1 E. A. Hull, T. Applewhite Sur. Drlg. 2,100 ft.

Matex Oil Co. No. 1 Thomas M. Alstone, 3 mi. E of Elysian field. R.U.

White-Goodwin Synd. No. 1 Hill, Winnie Mann Sur. Loc.

Shelby County

Potter & Rubeling C. H. Polly No. 1, Wm. Wisner Sur. T.D. 4,050 ft.; M.I.H.R.

Red Wing Oil Co. No. 1 C. H. Herton, 54-ac. tr. in J. Dowlin Sur. Fsg. 1,888 ft.

NORTH TEXAS WILDCATS

Archer County

Archer Drlg. Co. No. 1 L. F. Wilson, sec. 32, A.T.N.C.L. Sur. Drlg. 1,600 ft.

Bridwell Oil Co. No. 1 Wilson, sec. 117, A.T.N.C.L. Sur. Drlg. 2,201 ft.

L. T. Burns No. 1 Carpenter-A, sec. 89, C.&P. Subd. Drlg. 1,050 ft.

L. T. Burns No. 1 White, sec. 34, A.T.N. C.L. Sur. Loc.

Clark & Mayfield No. 1 W. H. Taylor, sec. 17, A.T.N.C.L. Sur. Drlg. 2,272 ft.

W. W. Houston No. 1 P. J. Forcher, sec. 13, H.&T.C. Sur. Drlg. 400 ft.

Luggenheim et al No. 1 W. T. Waggoner, sec. 3, H.&T.C. Sur. Drlg. 1,720 ft.

Rathke Oil Co., No. 1 G. P. Meade, sec. 39, "L.&M." pasture. Drlg. 144 ft.

Baylor County

S. P. Morris et al No. 1-B C. T. Porter, E. Brown Sur. A-20. Drlg. 1,600 ft.

Clay County

Alexander & Goldsmith No. 1 Byers & Co., sec. 28, Byers Subd. Drlg. 1,200 ft.

Collin County

California Consld. Oil Co. No. 1 Fagg, Jas. Rutherford Sur. Drlg. 2,275 ft.

Port Bolivar O. & R. Co. No. 1 Durning, Wm. Creegar Sur. Rng. Halliburton tstr.

Sorrell et al No. 1 D. R. Clark, J. Rowland Sur. Drk.

Cooke County

Big Indian O. & D. Co. No. 1 T. E. McFadden, G. M. Bonds Sur. A-69. Drlg. 1,975 ft.

Cain & Chandler No. 1 J. B. Burch, J. M. Williams Sur. A-658. Drlg. 2,070 ft.

Wm. D. Compton No. 1 P. Tucker, J. Barnett Sur. A-42. Spudded.

Gratz & Wilson No. 1 Dennis, S. Hernandez Sur. A-437. S.D.O. 190 ft.

B. H. Hilburn No. 1 W. A. Harris, J. Harris Sur. A-502. Drlg. 775 ft.

Long & Wolf No. 1 Hopkins, B.B.B.&C. Sur. A-150. Drlg. 1,875 ft.

Wm. G. Mappas No. 1 W. R. Harpar, W. Pettit Sur. A-812. Loc.

C. Newburn No. 1 P. G. Dotson, W. Campbell Sur. A-238. S.O. 2,093-2,100 ft.; cmtng. liner.

Sinclair Prairie Oil Co. et al No. 2 A. C. McCall, H. White Sur. A-1,134. Drlg. 6,995 ft.

Skelly Oil Co. No. 1 Field & Bowers, J. Dye Sur. A-140. Drlg. 1,687 ft.

Denton County

Carlysle & Wilson No. 1 J. P. Knox, R. Howard A-542. Spudding.

J. C. Foster No. 1 Jeffcoat, J. West Sur. Spudding.

C. C. Minnick No. 1 C. N. Price, J. Doughtitt Sur. A-322. Derrick.

Oil Finance No. 1 J. S. Gambill. T.D. 1,320 ft.; running 8¼-in.

J. Stogner No. 1 J. Maxwell, Jno. Morton Sur. A-792. Spudding.

Fannin County

Sam W. Ball No. 1 A. G. Ayers, W. J. Bailey Sur. Drlg. 510 ft.

Grayson County

F. Galbreath et al No. 1 Singletary, Chas. Quillian Sur. A-989. Spudding.

Olson et al No. 1 D. R. Uitger, P. P. Cady Sur. A-301. Drlg. 1,170 ft.

Pete Shaner No. 1 Blair, R. H. Deavers Sur. A-313. S.D. 2,000 ft.; repairs.

Jack County

Bryson O. & G. Co. No. 1 O. Loving, T.& N.O. Sur. A-852. Drlg. 600 ft.

W. H. Hammon No. 1 G. E. Evett, B. Plaster Sur. 6⅝-in. csg. 2,987 ft.; pipe collapsed; fsg.

Hanlon-Buchanan, Inc., No. 1 Galvin, E. B. Galvin Sur. A-2,440. Drk.

Harper Pet. Corp. No. 1 G. F. Brown, S. M. Holderness Sur. A-1,532. U.R. 5 3/16-in. csg.

Montague County

H. Bost No. 1 Lemon, S. Little A-417. Machine on ground.

Clark-Beckner No. 1 C. W. Bell, sec. 6, M.E.P.&P. Sur. Drk.

T. P. Frost No. 1 Johnson, sec. 6, E.T. R.R. Drlg. 932 ft.

W. E. Halbert No. 1 Petty, S. A. Southerland Sur. A-992. Drlg. 1,240 ft.

L. C. Heydrick No. 1 Cliff Dowd, G. W. Browning Sur. A-1,274. Spud. & S.D.

Jim Seeds et al No. 1 Coombs, sec. 55, M.E.P.&P. Sur. Drlg. 2,401 ft.

Throckmorton County

R. J. Williams No. 1 W. B. Parrott, T.E.&L. Sur., sec. 961. Spudded.

Wichita County

A. E. Blair No. 1 Cody Est., sec. 311, Waggoner Col. Subd. Drlg. 1,900 ft.

Box & Seaberry No. 1 Krizan, Blk. 43 Cherokee Sch. Lds. Drlg. 200 ft.

G. H. Howell No. 1 Foster, sec. 1, H.T &B. Sur., 900 ft. S.D. water

King Oil Co. No. 1 M. Stone, G.C.&S.F. Sur. A-758. Spudding.

T. B. Maddars No. 1 Allen. H.T.&B. Sur. A-129. Moving in.

J. M. Morton No. 1 Housler, J. C. Pike A-509 S.D. 3,142 ft.

Geo. Proctor No. 1 Foster, S.A.&M.G. Sur. A-273. Loc.

Rathke Oil Co. No. 1 Throckmorton, J. F Torrey Sur. A-312. Drlg. 1,750 ft.

L. Webb No. 1 A. J. Schulz, J. Cole Sur. A-37. Loc.

Wilbarger County

F. A. Lain No. 1 Mrs. D. Coffee, sec 44, H.&T.C. Sur., Blk. 15. Drlg. 3,300 ft.

Young County

R. C. Albright No. 1 W. E. Steele, I.R.R Sur. A-156, Matl.

Alexander & Long No. 1 Goldston, S.P.R.R Sur. A-263. Derrick.

S. Caprito No. 1 Mrs. N. Laquey, A. Irvi- Sur. A-1,779. Tstg. sd. 4,040-45 ft.

J. W. Cole No. 1 George, T.E.&L. Sur. 107. Loc.

Art Cox No. 1 J. T. Rogers, J. Ray P. 1,628. P.B. to 3,660 ft. and shot with 120 qts.; C.C.

Fain-McGaha No. 1 G. P. Stewart., Blk. 6, Y.C.S.L. Sur. Loc.

Hinson & Tidwell No. 1 Jeffery, T.E.&L. Sur., sec. 467. Drlg. 3,570 ft.

Nash & Windfohr No. 1 F. B. Lowery, S. H. Criswell Sur. A-1,297. R.U.C.T.

Pitzer-West No. 1 Dollins, T.E.&L. Sur., sec. 606. Drlg. 1,600 ft.

A. T. Strong No. 1 Davidson, R. C. Eddleman Sur. A-1,420. Drlg. 525 ft.

R. H. Vise No. 1 Dollins, T.E.&L. Sur. 615. Loc.

C. V. Welch No. 1 Street, M. E. Criswell Sur. A-1,772. Loc.

L. W. Wickes No. 1 McCluskey, Green Sur. Loc.

Yorktex Pet. Co. No. 1 F. G. Burnett, G. W. Hills Sur. A-151. Drlg. 4,030 ft.

WEST TEXAS WILDCATS

Andrews County

Grisham Hunter Corp. No. 1 Ratliff & Bedford. Drlg. 3,750 ft.

Wm. Hannigan No. 1 Logsden, 1,320 ft. from S and W, sec. 5, Blk. A-32, S.D.

R. H. Henderson No. 1 J. E. Parker, sec. 25, P.S.L. Sur. A-43. Drlg. 4,264 ft.

Borden County

Moore Bros. No. 1 Clayton-Johnson, sec. 20, Blk. 32, Twp. 4n, T.&P. Sur. Drlg. 3,250 ft.

Brewster County

F. C. Dodson No. 1 Texas American Synd., sec. 66, Blk. 10, G.H.&S.A. Sur. Pulling csg. 3,690 ft.

Toney Hess No. 1 Mary Deal, sec. 7, Blk. 1, G.T.R.R. Sur., 7 mi. NW of Marathon. S.D. 1,630 ft.

Cochran County

Cascade and Honolulu Oil Corp. No. 1 B. B. Duggan, cen. Labour 13, League 55 Oldham County Sch. Ld.; pay 5,020 ft.; T.D. 5,087 ft.; to deepen; flowing 50 bbls. day and 12 bbls. S.W.

Coke County

H. E. Ogden No. 1 E. C. Rawlins, sec. 391, Blk. 1-A, H.&T.C. Sur., 4 mi. N and 1 mi. W of Bronte. Loc.

Crane County

Gulf Oil Corp. No. 2 W. N. Waddell, sec. 18, Blk. B-21. Coring 6,485 ft.

Gulf Oil Corp. No. 2 McKnight, sec. 9 Blk. B-21. T.D. 3,633 ft.; fsg.

Gulf Oil Corp. No. 2 Snodgrass, 440 ft. from N and W, sec. 1, Blk. B-25. Machine.

Loffland Bros. No. 2 Tubbs, sec. 9, B-37 S.D. 4,650 ft.; 1,300 ft. oil in hole.

Moore Bros. No. 1 Barnsley, sec. 43, Blk 32, P.S.L. Sur.

Dawson County

Roy Albaugh et al No. 1 J. Robinson, S.D. 5,025 ft.

Ector County

Empire G. & F. Co. No. 1-C Cummins, sec 22, Blk. 45, Twp. 1n, T.&P. Sur. T.D. 3,920 ft.

Sinclair Prairie No. 1-A Johnson, sec. 4 Blk. 42, Twp. 1s, T.&P. Sur. Drlg. 4,615 ft., sulfur water.

Stanolind O. & G. Co. No. 2-B Cowden sec. 10, Blk. 43, Twp. 2s, T.&P. Sur Drlg. 4,190 ft.

Edwards County

M. I. Phillips & Miers No. 1 Turney, sec 164, C.C.S.D.&R.G.N.G. Sur. S.D. 900 ft.

Plateau Oil Co. No. 1 Hatch, C SE SW¼ sec. 66, Blk. B, H.E.&W.T. Sur. Drlg. 2,050 ft.

Fisher County

L. A. Daniels et al No. 1 J. J. Nickless S.D. 1,400 ft.

Forest Dev. Co. No. 1 A. M. Dry, sec 108, Blk. 2, H.&T.C. Sur. S.D. 4,354 ft.

L. A. Long et al No. 1 J. L. Mayberry, sec. 56, Blk. 1, H.&T.B. Sur. Loc.

Gaines County

Amerada Pet. Corp. No. 1-A Averitt, sec 228, Blk. G, W.T.R.R. Sur. Drlg. 4,300 ft.

Garza County

Gartex Oil Co. No. 2 Post Est., sec. 6, Blk 5, K. Aycock Sur. T.D. 2,767 ft.; S.D. for csg.

Glasscock County

F. Dodson et al No. 1 Carter heirs, sec. 8 Blk. 33, Twp. 3s, T.&P. Sur. T.D. 2,669 ft.; P.B. 2,664 ft.; testing.

Hockley County

Texas Co. No. 1 B. Slaughter, Labour 88 League 38, Zavala Co. Sch. Lds. T.D. 3,075 ft.; milling on pipe.

Jones County

Camp & Grady No. 1 Woodson, T.D. 2,168 ft. set csg.

R. B. Ferris et al No. 1 Guitar, trustee sec. 44, Blk. 15, T.&P. Sur., 1 mi. NW of Hawley. T.P. 1,991 ft.; T.D. 1,993 ft.; 42 bbls. in 4 hrs.; tstg.

Kleiner No. 1 G. Fields, 3,780 ft. N and 330 ft. S of S. Andrews Sur. Loc.

K. O. T. Oil Co. No. 1 E. C. Duke, 1,320 ft. S and W. sec. 20, Blk. 15, T.&P. Sur., 1 mi. N of Hawley field. Drlg. 920 ft.

Oyster & Griffith No. 1 Bumpass, 310 ft. N and 220 ft. S of 80 ac. in A. Jones Sur., 3 mi. SW of Truby. Drlg. 510 ft.

J. L. Reeves No. 1 Kelly, C. Martinez Sur. 1½ mi. N of Hawley. Fsg. 1,535 ft.

Tiner et al No. 1 Rainwater, 220 ft. N and E of S½, sec. 34, Blk. 2, S.P. Sur. Loc.

Ungren & Frazier No. 1 Davis & Stemmons, Lot 7, F. M. Smith Sur. No. 3, 2½ mi. SW of Lueders. Loc.

Kimble County

Wilcox O. & G. Co. No. 1 H. Spiller, sec 15, Brooks & Burleson Sur.. Abst. 80 Drlg. 3,165 ft.; H.F.W. 3,015-35 ft.

Pecos County

Bahan & Rhodes No. 1 Bonebrake. Drlg. 1,500 ft.

C. A. Everitt No. 1 W. C. Tyrell, sec. 508, G. Montez & Duran Sur. Drlg. 1,620 ft.

A. H. Flaherty No. 1 Cunningham, sec. 25, Blk. 11, H.&G.N. Sur. S.D. 90 ft.

Kirk et al No. 1 Potts, sec. 6, Blk. 9, H.& G.N. Sur. Drlg. 1,515 ft.

E. R. Minshall. No. 1 Banker, sec. 25, Blk. 146, T.&St.L. Sur. Swedging csg. 2,815 ft.

Tex-Mex Oil Co. No. 1 McKee, Tr. 7, sec 24, Blk. 9, H.&G.N. Sur. Set csg.; S.D. 2,690 ft.

S. Thompson No. 1 Elsinore Cattle Co. sec. 54, Blk. D, G.C.&S.F. Sur. Drlg. 3,475 ft.; H.F.W.

Trans-Pecos Oil Co. No. 2 Caldwell, sec. 27, Blk. 50, T.&P. Sur. Drlg. 675 ft.

Young No. 1 Bailey, sec. 23, Blk. 178, T.C. R.R. Sur. Drlg. 150 ft.

Presidio County

Lindeman Bros. Oil Corp. No. 1 J. R Bledsoe & Badgley, sec. 15, Blk. 151, G.C.&S.F. R.R. Co. Sur., 2½ mil. NE of Presidio. T.D. 1,660 ft.

Schleicher County

Magnus Oil Co. No. 1 Judkins & Spencer, C SW¼ sec. 4, W. W. Russell, grantee. Elev. 2,209 ft.; S.G. 4,350 ft.; gas sd. 4,956-58 ft.; T.D. 6,527 ft.; P.B. to 5,779 ft.; swbg.

Terrell County

Ohio Oil Co. No. 1 M. H. Goode, sec. 26, Blk. 161, G.C.&S.F. Sur. O.T.D. 6,120 ft.; drlg. 6,365 ft.

Terry County

J. A. Estes No. 1 F. B. Graham, sec. 23, Blk. T, O.&W.R.R. Sur. S.D. 70 ft.

Uscan Oil Co. No. 1 Brownfield, C N¼ sec. 54, Blk. K, P.S.L. Sur. Drlg. 3,857 ft.

Tom Green County

Webb Bros. No. 1 J. F. Schrivener, Krending Sur. 1,663, 3 mi. N and E of Van Court. Drlg. 505 ft.

Upton County

R. H. Henderson No. 1 Reese, sec. 16, Blk. 3½, C.C.S.D.&R.G.N.G. Sur. Skd. rig 25 ft. N; S.D. 240 ft.

Moore Bros. No. 1 Giddings, Sub. 25, Throckmorton Co. Sch. Lds. R.U.S.T.

Ward County

Findley & Cherry No. 1 Sealey, sec. 54, Blk. F, G.M.M.B.&A. Sur. S.D. 125 ft.

P. Moran et al No. 1 Reynolds, sec. 12, Blk. 5, H.&T.C. Sur. S.D. 850 ft.

Philtop O. & G. Co. No. 1 Pure-Smith, sec. 26, Blk. 34, H.&T.C. Sur. Drlg. 2,800 ft.

Prince Bros. Drlg. Co. No. 1 Monroe, sec. 52, Blk. 34, H.&T.C. Sur. Drlg. 2,752 ft.

Texas Pacific C. & O. Co. et al No. 1 Buckner Orphans Home Lands, sec. 3, Blk. 32, H.&T.C. Sur. Set csg.; T.D. 2,410 ft.

Winkler County

Emperor Oil Co. No. 1 Cross, sec. 4, Blk. B-11, P.S.L. Sur. Drlg. 1,433 ft.

Bert Fields et al No. 1 Walton, sec. 3, Blk C-23. T.D. 3,204 ft.; acidized; 500 bbls. oil in 10 hrs. through ¾-in. choke; testing water.

Read & Duffey No. 1 Sealey, sec. 8, Blk. A. G.M.M.B.&A. Sur. S.D. 3,225 ft.

Texas Co. No. 1 Halley, sec. 7, Blk. B-11, P.S.L. Sur. T.D. 3,499 ft.; P.B. 3,195 ft.; R.U. pump.

Yoakum County

Texas Pacific Coal & Oil Co. No. 1 Bennett, sec. 678, John H. Gibson Sur. T.D. 2,520 ft.; tearing down tools.

California Fields

(Continued from Page 74)

Tognazzini property in the Los Alamos district of Santa Barbara County and the technical spud thus made will permit the company to conclude its geological reconnaissance work and select the most favorable location for its initial deep test. The 101 Oil Co. has started rig construction for a wildcat to be drilled in the Point Concepcion district of Santa Barbara County and this well, No. 1 Hollister, located in section 35-5-33, should get under way in the immediate future. Rio Grande Oil Co. is rigging up rotary drilling equipment on No. 6 Perkins in the Santa Barbara Mesa field preparatory to deepening the hole.

Inglewood

In the Inglewood field of Los Angeles Basin, Standard Oil Co. operating for the Kettleman & Inglewood Corp. completed No. 24 Rubel, and this new well was brought in flowing 2,875 bbls. of clean 33.6 gravity oil per day from 3,808 feet. No. 24 Rubel was finished with a 6⅝-inch liner carrying perforations at 3,296-3,503 feet and at 3,546-3,800 feet. In addition to the oil produced the well is making 1,200,000 feet of gas daily. In the Dominguez field of Los Angeles Basin, Union Oil Co. recompleted No. 8 Carson and this well was returned to production flowing 405 bbls. of clean 30.1 gravity oil per day from 7,405 feet. In the Long Beach field Hollis Oil Co. No. 1 Signal proved good for 128 bbls. of relatively clean 26.1 gravity oil per day upon completion at 5,020 feet. Republic Petroleum Co. has recompleted No. 1 Trust in the Rosecrans field after plugging back the hole from 6,141 feet to 5,935 feet and returned it to production pumping 70 bbls. of exceptionally clean 36.1 gravity oil per day. In the Santa Fe Springs field General Petroleum Corp. completed No. 46-D Santa Fe pumping 105 bbls. of 29.1 gravity oil per day from 4,575 feet but the output showed a water cut of approximately 50 per cent and this may require some further work before the well is finally considered as officially finished. Union's No. 31 Alexander, which also registered a rather large water cut, was completed pumping 100 bbls. per day from 4,045 feet. In the Redondo section of the Torrance field of Los Angeles Basin, George Terry has completed No. 1 Frenger pumping 30 bbls. of 16.8 gravity oil per day from 3,500 feet after the hole had been plugged back from 4,607 feet. This well is an old abandoned project drilled several years ago by Shell Oil Co.

PERSONAL

A. J. HOOVER, of the Fox Rig Company, Tulsa, was elected president of the National Rig Builders Association at its annual meeting in Tulsa on October 22. ALEX RAIDER, Wichita, Kans., was elected vice president and R. J. WERTZBERGER of Tulsa secretary. New directors elected were H. A. SCOTT, K. S. FLINT, both of Tulsa; G. A. WOLFE, Eldorado, Kans.; R. W. SAGE, Augusta, Kans.; P. O. SILL, Midland, Tex.; W. J. DAVIS, Houston, Tex. The social security act and unemployment insurance were among the topics discussed and a special committee on insurance was named. Five states were represented by the delegates.

THOMAS WEBB from Tulsa University and VINCENT SMITH from Missouri University have recently joined the staff of petroleum chemists at the Bureau of Mines.

WILL J. REID, of Long Beach, Calif., president of the Hancock Oil Company, and WILLIAM A. CAMPBELL, of Los Angeles, Calif., president of the Campbell Oil Company, were painfully injured recently when a shotgun shell exploded accidentally at the Long Beach Gun Club, peppering them with scores of No. 8 shot. Both men were taken to an emergency hospital and given injections of antitetanus serum but no attempt will be made to extract the pellets unless infection develops, according to the attending surgeon.

W. H. COLLINS, who has been chief exploitation engineer for Shell Petroleum Corporation in the Mid-Continent area, has been transferred to the Texas Panhandle as division manager. B. DYKSTRA, who has been division manager in the Texas Gulf area, is being transferred to Tulsa to succeed him as chief exploitation engineer. H. J. KEMLER, who has been division manager in Kansas, will be transferred to Houston, Tex., November 1, to become assistant division manager in the Gulf Coast area. R. W. BOND, division manager in the Panhandle area, will be transferred to the McPherson, Kans., division.

G. C. McCLATCHEY, of the Perdue Tank Company, Shawnee, Okla., has been in Tulsa several days visiting his brother, O. E. McCLATCHEY, purchasing agent, Barnsdall Oil Company.

JOHN P. HOELZEL, vice president and general manager, and HARRY W. SCHUETZ, assistant to the vice president of the Pittsburgh Screw Bolt Company, were in Bartlesville and Ponca City, Okla., on business the first of the week. They arrived in Tulsa late Tuesday and were to spend several days here visiting oil offices.

RICHARD GORDON has been appointed district manager for Shell Petroleum Corporation for western Kentucky. He is president of the Kentucky Petroleum Marketers Association. Shell recently acquired properties of Three Rivers Oil Corporation, with headquarters at Paducah and distribution throughout the Jackson Purchase area of western Kentucky. The company was organized in 1930 by Richard Gordon and associates.

JOHN BUNN, drilling contractor and geologist, who is drilling for the Continental Oil Company in the Tamaulipas district in Mexico, recently proved himself a good trader. The story is told that Mr. Bunn needed a road to one of the company's leases. He made a swap with the Mexican highway engineer. He gave the engineer the use of the company's machine shop for a certain period in return for 20 miles of graded road.

JAMES CHISHOLM, chief scout of the Gulf Coast division for Pure Oil Company at Houston, Tex., is spending a two weeks' vacation in New Mexico.

C. G. ALLENBACH, who has been division manager at Kansas City for Cities Service Oil Company, has been transferred to Cleveland, Ohio, as division manager.

A. I. LEVORSEN, consulting geologist of Tulsa, was the principal speaker at a meeting of the Kansas Geological Society in Wichita Tuesday night. His subject was "Time of Oil Accumulation," and the talk was illustrated with lantern slides.

HORACE ALLEN is new sales manager for Rock Island Refining Company, at Duncan, Okla. J. P. RUNYAN has been appointed sales representative, and F. B. PATTERSON has been appointed sales manager for the Rock Island company at Omaha, Neb.

W. M. BALLEW, of the United States Rubber Company, was the speaker at the meeting of the Purchasing Agents Association of Tulsa Tuesday night. His subject was "Rubber Has Gone Scientific." The program was rounded out with a motion picture, "Gift of the Jungle," showing how and where raw rubber is obtained.

JAMES S. THOMAS, president of Clarkson College of Technology, Potsdam, N. Y., will be the speaker at the annual dinner of the Society of Automotive Engineers, November 12, at Hotel Commodore, New York. WILLIAM L. BATT, president SKF Industries, Philadelphia, engineer and industrialist, will be toastmaster. Doctor Thomas will speak on "What the Machine Has Done to Mankind."

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

Electra is the largest producing field in Texas. It has 27 wells producing 7,000 bbls. per day of high gravity oil. Its production exceeds that of the Humble field by 700 bbls.

Kansas towns pay 25 to 27 cents per thousand feet for gas for domestic purposes.

Trinidad asphaltic oil is being applied to macadam roads in Kansas City, Mo. It is said to have given good results in New York state.

20 YEARS AGO

The Paragon Refining Co. plant in Toledo, O., is sold to Field Richards and others of Cincinnati. It was built by the Van Vleck and Stowe interests in 1889. The new owners will organize a company and will increase the size and capacity of the plant. The deal includes 875 oil wells and 360 miles of pipe line and other property.

The town of Goose Creek, Tex., with 40 business houses and permanent residences, and scores of tent dwellings has been ordered to move as it is a squatter town on the lands of Mrs. Anna Schilling, who has leased the land for oil purposes. The citizenry does not know where to move to and are looking for another site.

10 YEARS AGO

The Seminole field, threatening a 100,000-bbl. daily output; growing production in the Texas Panhandle and a gasoline price war in California all help to weaken the crude market and producers fear a cut in price.

Standard Oil Co. of New Jersey is completing a modern refining plant in Sumatra and a camp for its white employes that would grace an American city street. The houses are built of brick and stucco with tiled roofs.

P. C. BLACKBURN and R. W. AMIDON have joined the laboratory staff of the Mid-Continent Petroleum Corporation in Tulsa.

E. B. REESER, president of Barnsdall Oil Corporation, has returned to his Tulsa offices after spending several days on the Gulf Coast.

C. P. SCHMITT, Topeka, Kans., manager for National Refining Company, has been transferred to Wichita as manager, succeeding C. B. WILLIAMS, who died October 7.

W. R. FERRIS, of the Wackman Welding Ware Company, and J. H. BOTTENBERG, of Ashgrove Lime & Portland Cement Company, both of Kansas City, Mo., were in Tulsa the past week calling on oil companies.

M. A. SCHNELLER, of G. S. Robbins & Company, chemical firm, and BYRON H. HUFFMAN, of Diamond Alkali Company, both of St. Louis, Mo., were business visitors at the offices of Tulsa oil companies the past week.

MR. and MRS. JOSEPH H. BOVAIRD, of Bradford, Pa., have returned from Big Cabin, Okla., where they visited Mrs. Bovaird's brother, CHARLES GRIFFITH, former drilling contractor, now a rancher. Mr. Griffith returned with them and accompanied Mrs. Bovaird to Baltimore, Md.

AMOS L. BEATY and S. W. FARNSWORTH, both of New York City, president and director, respectively, of Beaty, Bowles & Borsodi, Inc., an oil company, were in Houston, Tex., recently conferring with the Houston personnel. The company has valuable producing property on the north flank of the Manvel dome in Coastal Texas and is now testing in the Chocolate Bayou area south of Alvin, Tex.

PARAGRAPHS

D. M. COX has been appointed manager of the New York division of Colonial Beacon Oil Company, an Esso Marketers' affiliate, to succeed E. A. WIEHL, who resigned recently to enter business for himself. Mr. Cox was formerly assistant manager of the New Jersey division of the Standard Oil Company of New Jersey.

T. W. RHOADS and O. C. NEEDHAM, with Gulf Oil Corporation, Fort Worth, Tex.; PAUL HUBBARD, same company at Houston, Tex.; GURNEY PEOPLES, division manager of Black, Sivalls & Bryson, at Fort Worth; DAL LEGAN, superintendent of the Tide Water Oil Company, Houston, were some of the hunters who registered good luck on a hunting trip in the Jackson Hole country, in Wyoming.

JULIO CANESSA, engineer in charge of the La Plata refinery operated by the Argentina government-owned Y.P.F. company, is working in the New York office of Argentina Government Oil Fields (a corporation). A. ROSLOSNIK, chief of the Y.P.F. department of mining and geology; PEDRO REY, Y.P.F. geophysist, and EMILIO MONTANE, in charge of the company's drilling and production, are inspecting Gulf Coastal methods in Texas. The traveling party will visit Tulsa during the first half of November. Three of the four engineers are inspecting exploration and production practices while Mr. Canessa is studying the latest refinery technical developments.

GOVERNOR E. W. MARLAND, of Oklahoma, announced on Friday that when he finishes his term of office in January, 1939, he expects to return to the oil business and retire from political life.

H. R. SAYERS and D. R. N. PICKARD, both employed by Anglo-Iranian Oil Company, Ltd., arrived in New York recently after crossing from England, and will spend several weeks in the United States studying production and drilling methods.

FRANK CHAMPION, sales manager for Byron Jackson Company, Los Angeles, Calif., arrived in New York last week to spend three weeks at the company's export office during the absence of JOHN H. BAIRD. Mr. Baird, foreign representative for Byron Jackson, Elliott Core Drilling Company, American Iron & Machine Works Company, Security Engineering Company and the Lane-Wells Company, departed from New York October 23 by plane and will visit oil fields in Colombia, Venezuela and Trinidad. The entire trip to Trinidad will be made via air lines.

GUS WETZEL is in charge of the entertainment features of the California Natural Gasoline Association's big fall meeting in the Biltmore Hotel in Los Angeles on November 5. Mr. Wetzel has lined up such a galaxy of high-class talent that he is sure he can keep the meeting from breaking up too early. The serious part of the program is in the hands of WILLIAM MOELLER, JR., and his program committee, while W. C. DAYHUFF of the technical committee has scheduled a full series of morning sessions on topics pertinent to the gasoline industry.

W. H. WOOD, of Healdton, Okla., has been promoted to succeed the late CHESTER HIATT as district production clerk for the Sinclair Prairie Oil Company in the Ardmore, Okla., district, and JOHN BURGEN has been transferred from the Guthrie, Okla., district to succeed Mr. Wood.

CECIL BURTON, vice president of the Burton Drilling Company, has moved his offices from Tyler to Houston, Tex.

JACOB FRANCE, president of Mid-Continent Petroleum Corporation, Tulsa, Okla., was a visitor in New York oil offices last week.

DAVE FRITZ, of the Tidal Pipe Line Company, has been transferred to Houston to take the place of MR. FIDLER, who has been moved to the West Texas district.

JUDGE CECIL MORGAN, Shreveport, La., has resigned as judge of the Caddo Parish judicial court to accept a position as counsel for the Standard Oil Company of Louisiana.

DON EMERY, legal counsel for Phillips Petroleum Company at Austin, Tex., and GEORGE BUNN, from the Bartlesville office, were visitors at the Phillips offices in Tulsa the past week.

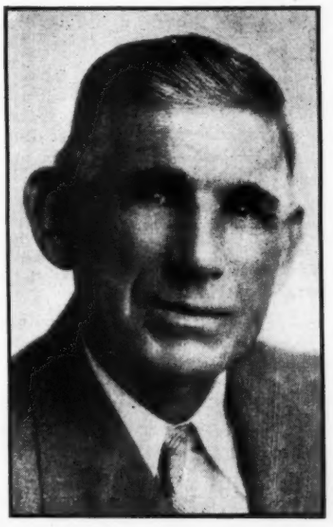
HAROLD MARKUS and WALTER GERSHOVITZ have recently been transferred to Shreveport, La., to take charge of the recently established branch store of the K. C. Pipe & Supply Company, Tulsa, Okla.

R. R. BLACKBURN, supervisor of personnel, claims and safety of Southern California Gas Company, has been appointed a colonel of the Los Angeles County Chest and placed in charge of the establishment division.

CARL NEWCOMB, employed by Standard Oil Company of California, sailed from New York City for Europe early this month, where he will be in charge of drilling operations on a wildcat test in the Dutch East Indies for a foreign subsidiary of the parent company.

Now He Has the Top Job

When M. H. Mosier recently combined his various producing properties and began operating them under the name M. H. Mosier, Producer, he looked around for the right man to be his state superintendent in Oklahoma. He chose C. M. Sim, who had been in his service 28 years. The position is the most responsible one in the Mosier organization.



C. M. SIM

Mr. Sim was born in Champaign, Ill., and when 8 years old moved with his sister and widowed mother to a farm near Findlay, Ohio. At 20 he quit the farm and got a job as pumper at $50 a month, which looked big. Soon he was getting $60 from another producer. Then he began dressing tools for Lafors Wanamaker, with whom he remained 8 years, when he went to Robinson, Ill., as a driller at $5 a day. Opulence! In 1906 Mr. Sim moved to Oklahoma. His first job was on tools at Collinsville. When the wells were completed he took a pumping job, but kicking off wells on cold mornings didn't appeal to him. A little casting about and an interview resulted in his being installed by Mr. Mosier on properties in the Bird Creek field. He has been with Mr. Mosier ever since, transfers taking him at different periods to Okmulgee, Boynton and Kiefer, in Oklahoma, and to Wayside, Kans. As state superintendent for the Mosier interests Mr. Sim will continue to reside at "Shadow of the Moon," near Kiefer.

J. H. SALMON, of the Shell Petroleum Corporation, St. Louis, Mo., who was in Tulsa on business for a week, has returned to his home office.

J. E. (CAP) GOODERIDGE, for the past six years special sales representative of Union Oil Company, has been appointed assistant to V. H. KELLY, director of sales.

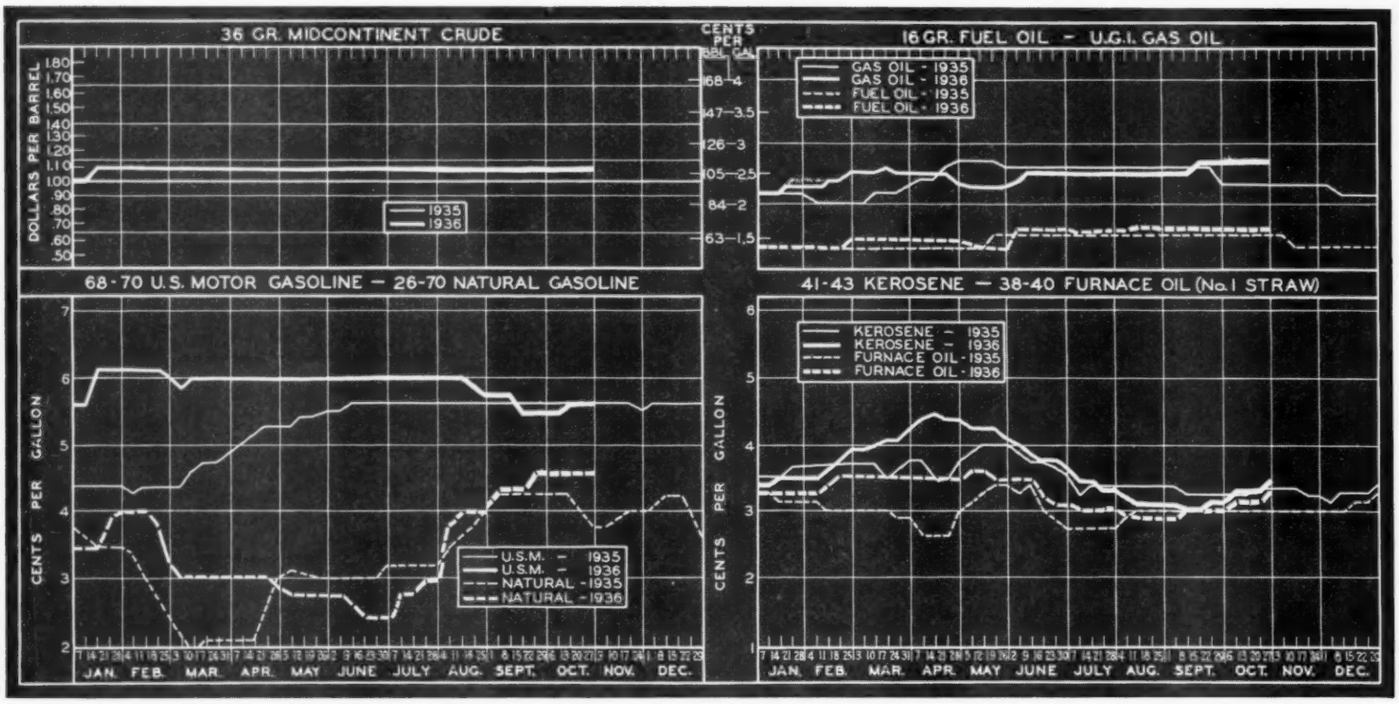
H. P. GRIMM, president of Pacific Western Oil Company, has returned to his office in Los Angeles, Calif., following an absence of several weeks spent in New York on business.

M. O. RIFE, superintendent for the Gulf Oil Corporation, Fort Worth, Tex., has just returned from an eastern trip, taking in some of the world series games while in New York.

R. D. MORIARTY, superintendent of purchasing for Standard Oil Company of Venezuela at Caripito, Venezuela, accompanied by MRS. MORIARTY, arrived in the United States a week ago to spend three months' vacation in this country.

ELLIS STALLARD, clerk in the scouting department, Carter Oil Company, has returned to Tulsa from a two weeks' vacation. He attended the Texas Centennial at Dallas, and was highly enthusiastic over the big exposition, especially the apple dancers.

CHARLES B. BUERGER, vice president of the Gulf Oil Corporation, recently completed a tour of the Texas refineries of that company. While in Port Arthur he was a guest at a gathering of Gulf Coast refinery executives. Representatives of all the large plants in the Sabine and Houston areas held the annual get-together with a round of golf followed by a dinner at the country club.


36 GR. MIDCONTINENT CRUDE
DOLLARS PER BARREL
1935
1936
CENTS PER BBL. CAL
16 GR. FUEL OIL - U.G.I. GAS OIL
GAS OIL - 1935
GAS OIL - 1936
FUEL OIL - 1935
FUEL OIL - 1936
68-70 U.S. MOTOR GASOLINE - 26-70 NATURAL GASOLINE
CENTS PER GALLON
U.S.M. - 1935
U.S.M. - 1936
NATURAL - 1935
NATURAL - 1936
41-43 KEROSENE - 38-40 FURNACE OIL (No. 1 STRAW)
KEROSENE - 1935
KEROSENE - 1936
FURNACE OIL - 1935
FURNACE OIL - 1936
JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.

Representative Mid-Continent Quotations on Crude Oil and Refined Products. Basis Oklahoma (Group 3)

Sports Steady Gasoline Demand in Group 3 as Tourist Season Ends

By T. F. SMILEY

Increasing tightness of the light distillates was readily apparent in the Group 3 market this week. The naturals were maintaining their firmness. Refiners saw grounds for hope that a better lubricant business was in the making. Gasoline consumption was riding high, but the tankcar market continued fuddled.

Refiners and marketers are becoming growingly aware of the important place football has taken in the demand for gasoline. Subsidence of the depression has been accompanied by rising interest in sports. There are some 600 colleges in the United States, and almost every one has its schedule of football games. Each Saturday sees streams of automobiles headed toward stadiums.

FANS USE THOUSANDS OF GALLONS

Only a rough estimate of the motor fuel burned by football fans is possible, but it probably is safe to say that for each of the more important games (and about 200 colleges participate in these) something like 30,000 gallons of gasoline is consumed, for it must be remembered that great numbers of patrons drive long distances. The combats of less widely known institutions are centers of lively enthusiasm locally, and the landscape surrounding their grounds is covered with cars on days of battle. Many stadiums have two games in one day, and night games now are common.

In addition to the college contests there is scarcely a high school that does not have its football eleven, with a game each week. Rivalry is keen, and the games add tremendously to the total gallonage of motor fuel. There can be no doubt that football affords one of the principal reasons—perhaps the principal one—why consumption of gasoline does not drop more sharply at the close of the summer vacation season. As tourist cars leave the highways, football games (and, in September, baseball games) enrich service-station business.

Hesitancy which entered the tankcar gasoline trade two months ago has not lifted. Although all but an inconsequential part of current sales are at the published prices, there is just enough material (much of it said to be of questionable quality) available at concessions to create uneasiness. Another factor tending to weaken prices was the cold weather which overspread a large part of the Group 3 consuming territory this week, discouraging pleasure driving.

There was noticeable scurrying around for heating oils in the last week, with supplies shrinking and prices headed upward. Refiners reported they were behind on shipments, and buyers who asked for more than their contracts allowed them were meeting with refusals. Such requests were growing, buyers hoping thus to get supplies at lower prices than those expected to be in effect later. As cold weather spreads in the northern areas jobbers with limited storage capacity are finding it difficult to replenish their stocks. Kerosene was strong, with prices higher.

BIG ORDER HELPS NATURALS

Natural gasoline was preserving its firm tone. Just as somewhat larger supplies were becoming available in Oklahoma an order for 130 cars from one of the major refiners stiffened the market. It was said that all the material beyond that needed to take care of regular contract shipments would be absorbed by this large order for several weeks. The natural gasoline market in Texas had been somewhat tighter than that in Oklahoma, but this week conditions were equalized.

The week saw no further cuts in the lubricant group, where there had been merciless price slashing recently. Observers said the action of major refiners in reducing prices of neutrals, bright stocks and steam-refined stocks probably had put a stop to price-cutting and that a better market might be looked for soon.

Demand for tractor fuels was small, but prices underwent no change largely because of the close relationship of this material to the distillates. Heavy fuels were holding well. Wax was in good demand at current quotations.

Refined Oil Market Barometer

Light fuel oils continue to hold first place in point of market activity, with increasingly cold weather adding to demand. Gasoline consumption declining moderately under seasonal influences, but maintaining gratifying rate. Neutrals moving into better position in eastern areas, but market practices adopted by some refiners have forced prices to unprofitable levels in the Mid-Continent.

MID-CONTINENT. Heating oils buoyant. Little change in gasoline. Naturals firm.

EAST COAST. Tankcar gasoline steadier, but retail market irregular. Fuels firm.

GULF COAST. Fuel oils strong and scarce. Gasoline weak.

PENNSYLVANIA. Neutrals up. Exports strengthen bright stock. Gasoline strong.

CALIFORNIA. Gasoline demand satisfactory. General market steady.

CHICAGO. Gasoline steady. Furnace oils strong. Heavy fuels firm.

Turn Towards Firmer Ground Seen in East Coast Tankcar Gasoline

By H. STANLEY NORMAN

NEW YORK, Oct. 27. — A slight turn toward firmer ground by the tankcar gasoline market in the New York area divided interest of marketers along the Atlantic seaboard last week with the increasingly strong position of all grades of fuel oil. Maximum tankcar prices for gasoline remained unchanged at 6¾ cents per gallon for 65-octane material, but there was less movement at quotations a shade under the top, indicating that the overall picture has undergone improvement. Retail markets are practically unchanged, excepting for a cent per gallon advance in the Philadelphia district early this week which made the service station quotation 17 cents at most pumps, including taxes. There was no change in the New England district where a break in the entire retail structure occurred two weeks ago. Tankwagon and service-station prices fell from a half-cent to 1½ cents per gallon at most New England points effective October 17 and no indication of recovery has appeared.

Gallonage throughput of retail pumps throughout the North Atlantic district is satisfactory in most respects and the volume is exceeding expectations of most market observers. Continued favorable weather for motoring, fall sport attractions and heavy freight movement by motor carriers are all contributing factors to maintenance of satisfactory gallonage.

Probably the brightest spot in the petroleum products market at the present is the demand for fuel oil. Industrial consumers are calling on their suppliers for record deliveries, domestic users are burning their furnaces at least a part of the time and cracking-stock is proceeding its movement along normal lines. Prices are firming under the influence of heavy use, but the call for material has not reached proportions justifying an abrupt climb into higher brackets. At least, competitive conditions are such that the market leaders seem reluctant to make the break into higher ground, although numerous observers point out that scarcity of material on the Gulf Coast will probably force an upturn in the near future on the domestic heating grades.

The past week was devoid of spot export business, although the movement to contract customers and controlled outlets abroad continued at a normal rate with emphasis shifting from gasoline to gas oil and distillate fuel. A cargo of kerosene is available on the spot market in the Gulf Coast, but it is resting in firm hands. The refiner is unwilling to do business at less than the current market. Moderation of temperatures in New England and northern New York placed a temporary damper on the kerosene movement into that section, but it was expected to resume with even more vigor with return of freezing weather.

The heavier fuels for industrial consumption and ships' bunkers are in firm demand and stocks are limited along the Atlantic Coast. With steel plants and automobile factories anticipating record business volume during the winter, the call from industrial consumers probably will be well maintained during the winter months. Conversion from other types of fuel to oil at many plants last summer and new installations probably will more than take up the slack from any curtailment in shipping. Diesel fuel is steady and moving in normal volume at $1.65 per barrel, unchanged for several months. The Bunker C fuel oil price of $1.15 per barrel is well maintained and consumption along the eastern seaboard trends to a strong market.

The scarcity of Bunker C fuel on the Gulf Coast was reflected by inability of some buyers to obtain their demands even at the stronger price of 95 cents per barrel. Numerous refiners on the Gulf Coast were not in position to offer the material and those with limited stock on hand were not overanxious to do business even at the current price. Kerosene movement from refinery terminals along the North Atlantic were reported in satisfactory volume from most quarters, although others said it was no more than normal for this season of the year. The Pennsylvania inland refining district was reported in satisfactory position regarding kerosene business. Demand for the material in space heaters and as a blend with the lighter domestic furnace oils keeps the stocks at Atlantic shipping points and at inland refining centers in satisfactory position. Contrary to previous seasonal trends, bright stocks in the Pennsylvania district are reported in brisk demand, particularly in the interrefinery field. Most of the interrefinery purchases are eventually moving into export business which demands a lower pourpoint and lighter color. The export specifications of lower pour and lighter color are curtailing to some extent the volume produced by Pennsylvania refiners who normally produce No. 8 color and 25 pour material. This factor is contributing to some extent in tightness of the bright-stock market. There have been no further losses in the cylinder-stock market, which seems reasonably well maintained in the face of normal seasonal slump. Neutral oils are maintaining their firm position and stocks are limited, probably presaging other advances as the winter demand increases for cold weather motor lubricants. In the price range spread of a half-cent per gallon, most refiners are asking and receiving the top quotations. Some are staying out of the market believing that the more severe winter weather due soon will stimulate the demand from blenders and jobbers.

Ability of American refiners to supply quality lubricating oils at conservative prices has maintained the export trade to nearly all countries and in many instances the movement of this material abroad has increased materially.

Although the overall spot export business reached record lows during the summer, orders placed or filled during the past three or four weeks for a total of four cargoes of gasoline and a small amount of kerosene, indicates that currency manipulation in Europe has aided to some extent. Devaluation in most of the competitive supplying countries has placed American prices on a parity with those prevailing in Rumania and other foreign countries in position to compete for world business either directly or indirectly.

There is also the factor of broad use of the solvent process in this country which has not reached maximum proportions in European plants. However, the European plants not already equipped with solvent refining units are building them now or planning to do so in the near future. The trends in European refining facilities may cause some concern over a longer term to those refiners supplying quantities of lubricating material at present. It appears probable that at least a part of the lubricating stock volume in export trade will be curtailed gradually as more and more solvent installations are completed and placed in operation abroad.

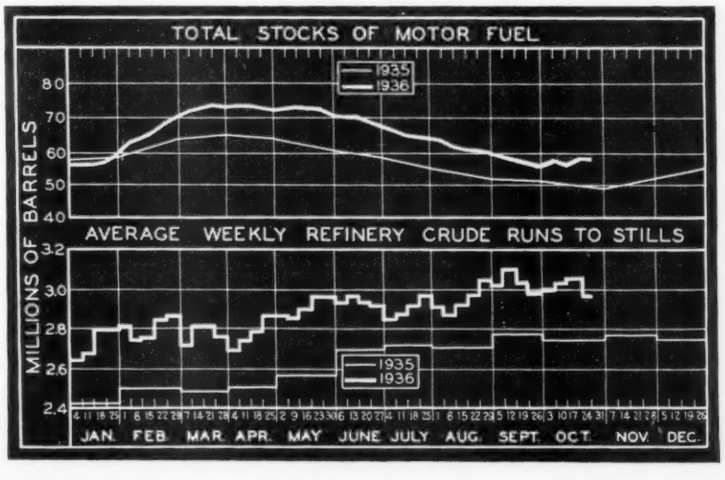
Generally, eastern marketers might be reasonably classified as optimistic over the outlook for winter business. The fears of a sharp contraction of gasoline business have been largely dispelled by the record since June when many previously predicted that the 1936 gasoline consumption increase would fall sharply compared with 1935 volume.

A. P. I. Weekly Refinery Statistics

Week Ending October 24, 1936

	Capacity reporting (per cent)	Daily crude runs (bbls.)	Total gasoline stocks	Gas oil and fuel oil stocks
East Coast	100.0	472,000	15,199,000	12,957,000
Appalachian	94.8	104,000	2,281,000	644,000
Indiana, Illinois, Kentucky	96.1	440,000	8,432,000	6,515,000
Oklahoma, Kansas, Missouri	84.8	275,000	5,665,000	3,491,000
Inland Texas	48.5	98,000	1,409,000	1,810,000
Texas Gulf	97.0	628,000	6,807,000	8,654,000
Louisiana Gulf	96.4	146,000	1,402,000	2,312,000
North Louisiana and Arkansas	90.0	48,000	220,000	394,000
Rocky Mountains	61.9	40,000	764,000	729,000
California	92.6	495,000	11,918,000	73,076,000
Total reported	89.8	2,746,000	54,097,000	110,582,000
Estimated unreported	.....	244,000	3,767,000	3,624,000
*Estimated total	.....	2,990,000	57,864,000	114,206,000
*Estimated total previous week	.....	2,060,000	57,987,000	113,773,000
†October 31, 1935	.....	2,746,000	49,798,000	109,952,000

*Bureau of Mines basis, currently estimated. †Monthly report, U. S. Bureau of Mines.



RETAIL OIL MARKETS

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of October 27, 1936

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county and city taxes. The gasoline is the regular or standard grade. In most areas a third grade and a premium grade are also available.

Discounts

Under the standard form of commercial consumer contract which went into effect March 1, 1934, save in California, Oregon, Washington, Arizona and Nevada, a discount of 1 cent a gallon off tank-wagon or 3 cents a gallon off retail prices is permitted for purchases between 4,000 and 10,000 gallons per month or 4 cents a gallon off retail prices for purchases in lots of more than 10,000 gallons a month. The minimum delivery is 25 gallons.

Standard Oil Co. (Indiana)

	Gasoline Tank wag.	Gasoline Dlr.	Gasoline Inc. tax	Kero. tank-wag.
Chicago, Ill.	15.4	13.4	4.0	9.2
Decatur	15.4	13.9	4.0	9.2
Joliet	14.5	13.9	4.0	9.2
Peoria	15.4	13.9	4.0	9.2
Quincy	15.2	13.7	4.0	9.0
Davenport, Ia.	15.4	13.9	4.0	9.2
Des Moines	15.2	13.7	4.0	9.0
Mason City	15.6	14.1	4.0	9.4
Sioux City	15.4	13.9	4.0	9.2
Duluth, Minn.	16.2	14.7	4.0	10.0
Mankato	15.8	14.3	4.0	9.6
Twin Cities	15.8	14.3	4.0	9.6
La Crosse, Wis.	16.8	15.3	5.0	9.6
Green Bay	17.1	15.6	5.0	9.9
Milwaukee	16.7	15.2	5.0	9.5
Detroit, Mich.	15.0	13.5	4.0	8.8
Grand Rapids	15.4	13.9	4.0	9.3
Saginaw	15.6	14.1	4.0	10.1
Evansville, Ind.	17.1	15.6	5.0	†9.7
Indianapolis	17.3	15.8	5.0	†9.0
South Bend	17.5	16.0	5.0	†9.0
Fargo, N. Dak.	16.8	15.3	4.0	10.6
Minot	18.0	16.5	4.0	11.8
Huron, S. Dak.	17.3	15.8	5.0	10.1
Kans. City, Mo.*	14.5	13.3	4.0	8.0
St. Louis*	15.1	13.6	4.0	8.9
St. Joseph*	14.8	13.3	4.0	8.6
Wichita, Kans.	14.3	11.5	4.0	8.0

*State tax 2 cents. 1-cent city tax and 1-cent federal tax. †Does not includes 4-cent state tax.

(Exclusive of state general sales taxes, except Indiana and South Dakota.)

Discounts to commercial consumers: On purchases per month, off tank-wagon prices: 1,000 gallons or more, 1.5 cents off; minimum delivery 25 gallons.

Stanolex Fuel Oil in Chicago

Effective October 5, 1936, f.o.b. Chicago tank-wagon prices: Range oil, 1-99 gallons, 8.75 cents; 100-119 gallons, 7.75 cents; 150 gallons and over, 7.25 cents. Stanolex No. 1, 1-99 gallons, 8.8 cents; 100-149 gallons, 7.75 cents; 150 gallons and over, 6.75 cents. Stanolex furnace oil, 1-149 gallons, 7.75 cents; 150 gallons and over, 6.75 cents. Stanolex A, 1-399 gallons, 6 cents; 400 gallons and over, 5 cents. Stanolex B, 1-799 gallons, 5.5 cents; 800 gallons and over, 4.5 cents.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank-wag.
Atl'tic City, N.J.	13.0	....	4.0	9.0
Newark	12.5	....	4.0	7.5
Annapolis, Md.	14.6	....	5.0	10.0
Baltimore	14.0	....	5.0	8.0
Cumberland	16.6	....	5.0	10.0
Wash'g'n, D.C.	12.0	15.5	3.0	9.0
Danville, Va.	17.3	20.7	6.0	12.9
Norfolk	16.0	19.5	6.0	11.3
Petersburg	16.3	19.8	6.0	11.7
Richmond	16.3	19.8	6.0	11.7
Roanoke	17.5	21.0	6.0	12.9
Charles'n, W. Vt.	15.8	....	5.0	12.6
Parkersburg	15.1	....	5.0	11.2
Wheeling	15.0	....	5.0	12.2
Charlotte, N. C.	18.4	....	7.0	12.6
Hickory	18.9	....	7.0	13.0
Mt. Airy	18.7	....	7.0	12.8
Raleigh	18.0	....	7.0	12.1
Salisbury	18.5	....	7.0	13.7
Charleston, S. C.	17.0	20.5	7.0	11.1
Columbia	18.0	21.5	7.0	12.1
Spartanburg	18.7	22.2	7.0	12.9

Tank-wagon gasoline refers to dealer instead of retail prices.

Price basis to dealers: Undivided dealers at regular price less one-half cent. Discount for kerosene, 1 cent off tank-wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except in New Jersey, where no discount (if necessary) is given.

Southern District

STANDARD OIL CO. OF KENTUCKY

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank-wag.
Atlanta, Ga.	20.5	22.5	7.0	*13.0
Augusta	19.5	21.0	7.0	*13.5
Macon	20.0	22.0	7.0	*14.0
Savannah	18.5	20.5	7.0	*12.5
Birm'ham, Ala.	21.0	23.0	8.0	12.0
Mobile	20.0	21.0	9.0	11.0
Montgomery	20.5	21.0	9.0	14.0
Jackson, Miss.	20.0	22.0	7.0	*12.5
Vicksburg	19.5	....	7.0	12.5
Jacksonville, Fla.	18.0	20.0	8.0	11.5
Miami	19.5	21.5	8.0	12.5
Pensacola	21.5	23.5	9.0	12.0
Tampa	18.0	20.0	8.0	11.5
Lexington, Ky.	18.0	20.0	6.0	11.0
Covington	17.5	19.5	6.0	10.5
Louisville	18.0	20.0	6.0	10.0
Paducah	16.75	17.5	6.0	8.0

*Includes 1 cent state tax. Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax; and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon. Pensacola, Fla., has a city gasoline tax of 1 cent.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank-wag.
Denver, Colo.	19.0	21.0	5.0	11.0
Grand Junction	21.5	23.5	5.0	15.0
Pueblo	19.0	21.0	5.0	10.0
Casper, Wyo.	19.5	21.5	5.0	11.5
Cheyenne	19.5	21.5	5.0	13.0
Butte, Mont.	21.0	23.0	6.0	14.5
Billings	22.5	24.5	6.0	14.5
Helena	22.5	24.5	6.0	14.5
Great Falls	22.5	24.5	6.0	14.5
Salt Lake, Utah	21.0	23.0	5.0	16.0
Twin Falls, Ida.	23.0	25.0	6.0	18.0
Boise	22.5	24.5	6.0	18.0
Albu'que, N. M.	19.0	21.0	*6.5	13.0

*Includes one-half cent city tax.

Discount to dealers with or without contract in Continental territory: Undivided dealer discount off service station price 4 cents except in Montana where a discount of 2 cents off tank-wagon price only is allowed; divided dealer accounts, 3½ cents.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank-wag.
San Francisco	17.0	18.0	4.0	11.5
Los Angeles	16.5	17.5	4.0	9.0
Fresno, Calif.	17.5	18.5	4.0	11.0
Phoenix, Ariz.	20.5	21.5	6.0	‡16.0
Reno, Nev.	19.5	20.5	5.0	13.0
Portland, Ore.	19.5	20.5	6.0	13.5
Seattle, Wash.	19.5	20.5	6.0	13.5
Tacoma	19.5	20.5	6.0	13.5
Spokane	22.5	23.5	6.0	16.5

Discounts to dealers: on gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents; to split dealers, 2 cents. To commercial consumers: on tank-wagon price: on single deliveries of 40 gallons and over, advance quantity discount extended at time of delivery, 3 cents. Service station schedule applies on single deliveries less than 40 gallons. On kerosene in tankcar, transport truck and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank-wagon.

‡Includes 5-cent state tax.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline Post. deal.	Gasoline Serv. sta.	Gasoline Inc tax	Kero tank-wag
Albany, N. Y.	12.7	....	4.0	7.75
*Met. N. Y.:				
Manhtn., Bronx	12.7	....	4.0	7.25
Staten Island	13.0	....	4.0	7.25
Qu'ns & Br'klyn	12.7	....	4.0	7.25
Buffalo	13.5	....	4.0	8.25
Rochester	13.5	....	4.0	8.25
Syracuse	13.5	....	4.0	8.75
Boston, Mass.	12.5	....	4.0	7.50
Portland, Me.	14.5	....	5.0	7.75
Manch'ter, N. H.	15.0	....	5.0	8.00
Burlington, Vt.	14.7	....	5.0	8.75

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank-wag
Philadelphia, Pa.	16.0	16.0	5.0	9.5
Pittsburgh	17.5	19.5	5.0	9.0
Allentown	16.75	....	5.0	9.5
Erie	17.5	18.5	5.0	8.0
Scranton	16.75	....	5.0	10.0
Altoona	17.5	19.5	5.0	9.5
Dover, Del.	17.0	....	5.0	10.0
Wilmington	16.0	....	5.0	9.0
Springf'd, Mass.	12.5	....	4.0	7.5
Worcester	13.0	....	4.0	7.75
Hartford, Conn.	12.4	....	4.0	7.0
New Haven	12.3	....	4.0	7.5
Providence, R. I.	11.0	....	3.0	7.0

Note—Tank-wagon prices are those applicable to consumers purchasing lots of 100 or more gallons in one delivery.

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank-wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 3-cent Illinois tax, but not 1-cent federal tax or 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 15⁰ gallon lots if covered by contract.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank-wag.
N. Orleans, La.	19.5	23.0	*10.0	†13.0
Baton Rouge	17.5	21.0	8.0	11.5
Alexandria	18.0	....	8.0	11.0
Lafayette	18.5	....	8.0	12.5
Lake Charles	18.5	....	8.0	10.0
Shreveport	17.0	....	8.0	10.0
Knoxville, Tenn.	20.5	24.0	8.0	14.0
Memphis	18.5	22.0	8.0	9.5
Chattanooga	20.0	....	8.0	11.5
Nashville	19.5	23.0	8.0	10.0
Bristol	19.25	....	8.0	14.5

*Includes 2-cent parish tax. †Includes 1 cent parish tax and 1 cent state tax.

Tank-wagon gasoline refers to dealer instead of retail prices.

Price basis to dealers: Undivided dealers at dealer price less one-half cent.

Louisiana kerosene prices include 1-cent state tax.

Southwestern District

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank-wag.
Dallas, Tex.	15.0	17.0	5.0	7.5
Fort Worth	15.0	17.0	5.0	8.5
Houston	16.0	18.0	5.0	8.5
San Antonio	16.0	18.0	5.0	7.5
El Paso	17.0	19.0	5.0	8.0
Muskogee, Ok.	16.0	18.0	5.0	8.0
Okla. City	16.0	18.0	5.0	8.0
Tulsa	16.0	18.0	5.0	8.0
Ft. Smith, Ark.	16.5	18.5	5.0	8.0
Little Rock	19.0	21.0	7.5	9.5
Texarkana	16.5	18.5	5.0	8.5

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero tank wag
Ohio points	17.5	(†)	5.0	*13.5

*Includes state tax of 1 cent.

†Following the leasing of service stations to dealers at many points the company no longer posts a statewide service-station price.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank-wag.
Omaha	17.8	19.8	6.0	9.5
McCook	18.5	20.5	6.0	10.2
Norfolk	18.2	20.2	6.0	9.9
North Platte	18.6	20.9	6.0	10.3
Scotts Bluff	19.3	21.3	6.0	11.0

Note—Discounts to dealers: where service station gasoline prices are (maximum overall, including rent) as follows: Reliance, 2½ cents; Standard Red Crown, 3½ cents; Red Crown Ethyl, 3½ cents.

Where service station gasoline prices are below normal resellers' allowances are reduced one-half of the amount below normal, down to the following (minimum overall, including rent): Reliance, 2 cents; Standard Red Crown, 3 cents; Red Crown Ethyl, 3 cents. Discounts to consumers for tank-wagon deliveries covered only by standard commercial consumers contract effective January 1, 1935.

Canada*

3-Star Imperial Gasoline

IMPERIAL OIL, LTD.

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
Hamilton, Ont.	21.0	23.5	6.0	17.0
Toronto, Ont.	21.0	23.5	6.0	17.0
Brandon, Man.	29.8	32.8	7.0	22.1
Winnipeg, Man.	28.2	31.2	7.0	20.7
Regina, Sask.	29.5	32.5	7.0	22.0
Saskatoon, Sask.	32.3	35.3	7.0	24.8
Edmonton, Alta.	30.5	33.5	7.0	24.2
Calgary, Alta	28.0	31.0	7.0	21.5
Vancouver, B. C.	22.0	26.0	7.0	23.0
Montreal, Que.	18.5	....	6.0	17.5
St. John, N. B.	24.0	28.0	8.0	18.5
Halifax, N. S.	24.0	28.0	8.0	18.5

*Imperial gallon used in Canada.

Discount to dealers: Divided dealers pay 3 cents per gallon below station price; undivided dealers pay 4 cents per gallon below station price except in cities of Hamilton, Toronto and Montreal where discounts below station price are one-half cent per gallon less and in Vancouver where discounts are 1 cent per gallon more.

Retail Price Changes

Standard Oil Co. of New Jersey October 20 reduced tank-wagon gasoline .5 cent in Newark.

Standard Oil Co. of California October 18 reduced tank-wagon and station gasoline .5 cent in Phoenix.

Atlantic Refining Co. October 13 reduced tank-wagon gasoline 1 cent in Worcester and Providence, .5 cent in Springfield, .6 cent in Hartford and .7 cent in New Haven; October 7 reduced station gasoline 1 cent in Philadelphia; and September 30 reduced tank-wagon gasoline 1 cent in Wilmington.

Appropriate Testimonial

Edward H. Leroux, retiring president of the Oklahoma Pipe Line Co., was presented with an appropriate testimonial of the regard in which he is held by the employes of that company. A deputation of pipe line men gathered at Mr. Leroux's home in Tulsa on Monday evening and tendered him a miniature of a National Transit Ranger-type pipe line pump. It was made from sterling silver by F. C. Ziegler, a Tulsa jeweler and required 600 working hours to complete the order. Every detail of the pump was faithfully duplicated in miniature by Mr. Ziegler who used 8 pounds of silver in making the parts.

The pump is mounted on a bronze duotone base and a likeness of Mr. Leroux, carved in relief on silver, is clamped inside a plaque on the front of the base. This was the work of H. N. Stoddard, a Tulsa medal working artist.

Mr. Leroux has been with the Standard Oil Co. of New Jersey 41 years. He started at the bottom and worked his way up by sheer merit. He is widely known and held in high regard by all who have ever had the privilege of his acquaintance.

J. W. Donnell, formerly with the Continental Oil Co., is now associate professor of petroleum engineering at the University of Oklahoma. Mr. Donnell took up his new work at the opening of the present semester. In addition to his other duties, he will have charge of instruction in the refining of lubricating oils.

PRICES OF REFINED PRODUCTS

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of October 27, 1936

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
62 octane and below (3d gr.)	.04⅝	.04⅝
63-67 octane	.05	.05⅛
68-70 octane (regular)	.05⅝	.05¾
60-62 400 grades:		
62 octane and below (3d gr.)	.04⅝	.04⅝
63-67 octane	.05	.05⅛
68-70 octane (regular)	.05⅝	.05¾
64-66 375	.04⅞	.05
68-70 360	.05	.05⅛

NORTH TEXAS—

U. S. Motor grades:		
62 octane and below	.04⅝	.04¾
63-67 octane	.05	.05⅛
68-70 octane (regular)	.05⅝	.05¾
60-62 400	.04⅝	.04⅞
64-66 375	.04⅞	.05

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U. S. Motor grades:		
62 octane and below	.05½	.05⅝
63-67 octane	.06⅛	.06¾
68-70 octane (regular)	.06½	.06⅝

ARKANSAS (Ark., N. La., Miss. del.)—

U. S. Motor grades:		
62 octane and below	.05½	.05⅝
63-67 octane	.06⅛	.06¾
68-70 octane (regular)	.06½	.06⅝

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
62 octane and below	.04⅝	.04¾
63-67 octane	.05	.05⅛
68-70 octane (regular)	.05⅝	.05¾
60-62 400 grades:		
62 octane and below	.04⅝	.04¾
63-67 octane	.05	.05⅛
68-70 octane (regular)	.05⅝	.05¾
64-66 375	.04¾	.05
68-70 360	.05	.05⅛

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:	
Below 60 octane	.05⅜
60-64.9 octane	.07
65-70 octane	.07⅛
64-66 375	.06⅛
68-70 350	.06⅜

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.07	.08
58-60 400	.07¾	.08½

EAST COAST (domestic)—

U. S. Motor below 60 octane:		
*New York (Bayonne)		.06⅛
Baltimore		.06⅛
U. S. Motor, 60-64.9 octane:		
*New York (Bayonne)		.06½
Philadelphia	.06½	.06¾
Boston		.06¾
Baltimore	.06½	.06¾
Charleston, S. C.		.06⅜
U. S. Motor, 65 and above:		
*New York (Bayonne)		.06⅜
Philadelphia	.06¾	.07
Boston		.07
Baltimore	.06¾	.07
Charleston, S. C.		.07

*All grades of gasoline one-eighth to one-fourth cent less for barge shipments. New York harbor prices are for New York and New England delivery. Prices for New Jersey delivery one-fourth cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
Below 60 octane	.05½	.05⅝
60-64.9 octane	.05⅞	.06
65 octane and higher	.06	.06⅛

Naphtha

PENNSYLVANIA (inland refineries)—

50-52 450 (blending)	.05½
52-54 450 (blending)	.05½
54-56 450 (blending)	.05⅝

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70		.04½
Grade 18-55	.05⅜	.05½
Low vapor pressure grade:		
*14-pound v.p. (max.)	.05⅞	.06
*12-pound v.p. (max.)	.06⅛	.06½

*Nominal.

NORTH TEXAS—

Grade 26-70		.04⅛
Grade 18-55		.05⅛

CALIFORNIA—

75-85 375-390	.07	.07¾

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

Grade 26-70	.04⅝	.04¾

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 l.b.p., 110 flash, 540-550 e.p.	.03½
41-43 gr., 300-350 l.b.p., 110-125 flash, 500-520 e.p.	.03¾
46-48 gr., 210-230 l.b.p., 480 max. e.p.	.04½

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.03⅜	.03½
42-44	.03½	.03⅝

NORTH TEXAS—

41-43	.03⅜	.03½

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

41-43	.03¾	.03⅞

ARKANSAS (Ark., N. La., Miss. del.)—

41-43	.04	.04⅛

PENNSYLVANIA (inland refineries)—

45	.04¾	.04⅞
46	.04⅞	.05
47	.05	.05⅛

CHICAGO (Based on Group 3)—

41-43	.03⅛	.03⅛
42-44	.03⅜	.03½

CALIFORNIA (Pac. Coast market)—

38-40 high burning test	.03½	.05

NEW YORK (Bayonne, N. J.)—

41-43	.04⅝

GULF COAST (domestic)—

41-43	.03⅞

*Barge price one-eighth cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

No. 1 prime white, 38-42	.03⅝	.03⅝
No. 1 straw, 38-40	.03¼	.03⅜
No. 2 straw, 32-36	.03⅛	.03¼
No. 2 dark, 32-36	.03	.03⅛
No. 3, 28-32	.02⅞	.03⅛
No. 3, 15 and above, 28-32	.02¾	.02⅞

NORTH TEXAS—

No. 1 prime white, 38-42	.03⅝	.03½
No. 1 straw, 38-40	.03¼	.03⅜

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

No. 2, 32-36	.03	.03⅛

ARKANSAS (Ark., N. La., Miss. del.)—

No. 2, 32-36	.03¼
No. 3, 28-32	.03

CHICAGO (Based on Group 3)—

No. 1 prime white, 38-40	.03¼	.03⅜
No. 1 straw, 38-40	.03⅛	.03¼
No. 2 straw, 32-36	.03	.03⅛
No. 2 dark, 32-36	.02⅞	.03
No. 3, zero to 15, 28-32	.02¾	.03
No. 3, 15 and above, 28-32	.02⅝	.02¾

NEW YORK (Bayonne, N. J.)—

*No. 1	.04½	.04⅝
*No. 2	.04¼	.04⅜
*No. 4		.04

*Barge deliveries one-eighth to one-fourth cent under above, tankcar price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02⅝	.02⅞
No. 4, low cold test, 24-28	.95	1.05
No. 4, 15 and above, 24-28	.80	.85
No. 5, low cold test, 18-22	.72½	.80
Below 18 fuel oil, industrial	.70	.75

NORTH TEXAS—

U.G.I. gas oil	.02½	.02¾
No. 4, low cold test, 24-28	.95	1.00
No. 5, low cold test, 18-22	.72½	.80
Below 18 fuel oil, industrial	.65	.75

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U.G.I. gas oil	.02⅝	.02¾
10-14 fuel oil, industrial	.70	.75

ARKANSAS (Ark., N. La., Miss. del.)—

10-14 fuel oil, industrial	.60	.65

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02½	.02⅝
No. 4, low cold test, 24-28	.95	1.00
No. 4, 15 and above, 24-28	.80	.82½
No. 5, low cold test, 18-22	.72½	.75
No. 6, low cold test, 10-16	.62½	.67½

PENNSYLVANIA (inland refineries)—

36-40	.04⅝	.04½

CALIFORNIA—

Los Angeles:		
30-34 gas oil, per bbl.	.95	1.15
24 plus diesel	1.00	1.25
24 plus diesel (bunkers)	1.05	1.30
12-16 (bunkers at tidewater)	.85	.95
10-16 (cargo lots)	.75	.95
12-17 (tankcars)	.70	.95
San Joaquin Valley:		
10-18 (tankcars)	.70	.75
San Francisco:		
27 plus diesel		1.35
24 plus diesel (bunkers)		1.35
10-16 (bunkers)		1.00

GULF COAST—

28-30 gas oil	.03¼	.03⅜
28-30 diesel (bunkers)		1.50
Bunkers (bulk cargoes)		.95
Bunker C (bunkers)		.95

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.04½
28-30 diesel (lighterage 6¼ per bbl.)		1.65
28-30 diesel (tankcars)	.04¼	.04½
*Bunker C (to ocean-going ships in N. Y. harbor)		1.15
Industrial fuel (tankcars)		.03¾

*Lighterage charge 5c bbl. additional.

Bright and Steam-Refined

OKLAHOMA (Group 3)—

Bright Stocks:		
190-200 D, 15-25		.20
150-160 D, 0-10		.17
150-160 D, 15-25		.16½
150-160 E, 15-25		.16
100-110 D, 0-10		.15½
Steam refined:		
631 green (treated)		.13
600 dark green (untreated)		.05

PENNSYLVANIA—

Bright Stocks (Pennsylvania grade No. 8 color, 145-50 at 510; 540-550 flash):

10 pour test	.23½	.24
15 pour test	.22½	.23
20 pour test	.21½	.22
25 pour test	.20½	.21
Steam refined:		
600	.12½	.13
650	.14	.14½
600 Pennsylvania flash	.15	.15½
630 flash	.17	.17½
600 Warren E filtered	.15½	.16

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

Zero to 10 Cold Test:		
150-3		.08½
180-3		.09½
180-4		.09
200-3		.10
200-4		.09½
250-3		.11
250-4		.10½
280-3		.12
280-4		.11½
300-3½		.12½
400-3½		.13½
100-2½ paraffin oil		.05¾
15-20 Cold Test:		
200-3		.09½
200-4		.09
250-3		.10½
250-4		.10
280-3		.11½
280-4		.11

GULF COAST—

Pale Oils:		
200-3	.06½	.07
300-3	.07	.07½
500-3½	.08	.08½
750-3½	.08½	.09
1,200-3½	.09	.09½
2,000-4	.09½	.09½
Red Oils:		
200-5-6	.06½	.06¾
300-5-6	.06¾	.07
500-5-6	.07½	.08
750	.08	.08½
1,200-5-6	.08½	.09

CALIFORNIA (moving to dom. market)

Pale Oils:		
100-2½-3		.06
200-2½-3		.06¼
300-3-3½		.06½
400-3-4	.08½	.09¼
450-3-4	.09¾	.10
550-3-4	.10	.10¼
600-3-4	.10¼	.10½
Red Oils:		
200-4-5		.06
300-5-6		.06¼
350-5-6	.07	.08
400-5-6	.08	.08¼
450-5-6	.08¼	.08½
500-5-6	.08½	.09
600-5-6½	.09	.09½
700-6½ plus	.09¾	.10
750-6½ plus	.10	.10¼
900-6½ plus	.10¼	.10½

PENNSYLVANIA—

150 vis. at 750° F. color, 400-405 flash:		
Zero pour test	.21	.21½
10 pour test	.20	.20½
15 pour test	.19½	.20
25 pour test	.18½	.19
180 vis. at 70° F., 3 color:		
25 pour test	.21	.21½
200 vis. at 70° F., 3 color:		
Zero pour test	.24½	.25
10 pour test	.23½	.24
15 pour test	.23	.23½
25 pour test	.22	.22½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale	.02½	.02⅝

PENNSYLVANIA (inland refineries)—

122-124 (a.m.p.) w.c. scale	.0245	.0250
124-126 (a.m.p.) w.c. scale	.0250	.0255

NEW YORK—

Wax in bags fully refined:		
122-125 (a.m.p.) wax		.0445
125-127 (a.m.p.) wax		.0455
128-130 (a.m.p.) wax		.0480
130-132 (a.m.p.) wax		.0505
133-135 (a.m.p.) wax		.0535
135-137 (a.m.p.) wax		.0560
124-126 (a.m.p.) w.s.	.0240	.0250
124-126 (a.m.p.) y.s.	.0240	.0245
Petrolatum in barrels, carload lots:		
Dark green		.01⅞
Amber	.02⅞	.03
Extra amber	.03	.03⅛
Lily white	.06⅝	.06¾
Snow white	.07¾	.07⅞
Cream	.05⅝	.05¾

Export Prices

GASOLINE

GULF COAST—

U. S. Motor		.05¼
60-62 400		.05⅜
61-63 390	.05⅜	.05½
64-66 375		.05½

LOS ANGELES—

U. S. Motor grades:		
53-58 octane		.04¾
55-65 octane	.04¾	.05
65-67 octane		.05
67-69 octane		.05½
Above 69 octane		.05½
65 and above 400 e.p.	.05½	.06

KEROSENE

GULF COAST—

41-43 prime white	.03⅝
41-43 water white	.03¾
44 water white	.04½

LOS ANGELES—

41-43 water white	.04½	.05

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.a.s. in bbls.)—

Cylinder Stocks:	
600 Warren E	.22
600 S.R. unfiltered	.20
650 S.R. unfiltered	.19¾
600 flash S.R.	.22
630 flash S.R.	.23½
Bright Stocks:	
8 color	.28
6½ plus color in dilution	.27

NEUTRAL OIL

200-3 color	.27½
150-3 color	.24

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 a.m.p.		.04125
125-127 a.m.p.		.0425
128-130 a.m.p.		.0450
133-135 a.m.p.		.0525
135-137 a.m.p.		.0550
Crude scale:		
124-126 w.s.	.0260	.0270
124-126 y.s.	.0245	.0250

CRUDE OIL PRICES

Oklahoma, Kansas, North Central and East Texas

(January 9, 1936)

East Texas*	$1.15
Van, Tex.†	1.02
Altus and Tipton, Okla.‡	1.08
Other fields (see gravity table).	

*All companies. †Pure Oil Co. ‡Gulf Oil Corp.

West Texas

Crane, Upton, Howard, Glasscock and Mitchell counties	$ .80
Winkler County	.85
Lea County, N. Mex.	.85
Pecos County*	.85
Pecos shallow†	.75

*Shell Petroleum Co., Gulf Pipe Line Co., and Humble Oil & Refining Co. †Shell Petroleum Corp.

Note—For Humble, Magnolia and Texas Co.'s West Texas and Lea County prices see gravity table. Above prices are those of other buyers.

Rocky Mountain States

(Effective January 9, 1936)

Iles, Colo., light*	$1.06
Iles, Colo., heavy*	1.00
Greybull, Wyo.*	1.28
Torchlight, Wyo.*	1.28
Grass Creek, Wyo., light*†	1.18
Grass Creek, Wyo., heavy*†	.72
Hamilton Dome, Wyo.*	.67
Elk Basin, Wyo., light *†	1.18
Frannie, Wyo., heavy*	.72
Frannie, Wyo., light (Feb. 24, 1936)*	.78
Hogback, N. Mex.*	1.21
Pondera, Mont. (Jan. 26, 1936)*	1.05
Salt Creek, Dutton Creek and Midway, Wyo., take Stanolind's Oklahoma prices on a gravity basis.	
Big Muddy, Wyo.†	1.11
Rock Creek, Wyo.†	1.12
Artesia, N. Mex. (Jan. 9, 1936)‡	.80
Maljamar, N. Mex. (Jan. 9, 1936)‡	.80
Fort Collins and Wellington, Colo. (Jan. 9, 1936)‡	See Note
Florence, Colo.	.98
Lance Creek, Wyo.	.85
Lost Soldier, Wyo. (Sept. 30, 1933)	.88
Hudson, Wyo. (June 2, 1931)	.65
Sunburst, Mont. (June 5, 1936)†	1.15
Cat Creek, Mont.	1 28
Cut Bank, Mont.	1.35

Note—Fort Collins and Wellington are not posted, price 5 cents under quotation of Salt Creek crude of like gravity (Fort Collins 36°; Wellington 33°). *Stanolind Oil & Gas Co. †Ohio Oil Co. ‡Continental Oil Co. Cut Bank by Toronto Pipe Line Co.

Southwest Texas

(January 9, 1936)

Saxet	$ .90
Mirando	.85
Pettus	1.25
Salt Flat*	.97
Salt Flat‡	.97
Darst Creek*	.97
Darst Creek†	.97
Luling	.90
Lytton Springs	1.00
Duval County	.85

*Humble Oil & Refining Co. †Magnolia Petroleum Co., Gulf Fipe Line Co. and Texas Co. ‡Shell Petroleum Corp. Saxet posted by Humble and Texas; Mirando by Humble and Magnolia; Pettus by Humble; Salt Flat by Humble; Luling and Lytton Springs by Magnolia; Duval by Texas Co.

Gulf Coast

(January 9, 1936)

Cleveland, Tex.	$1.10
Hardin, Tex.	1.03
Greta, Tex.	.90
Refugio, Tex., heavy	.90
Tomball, Tex.	1.30
Lafitte, La.	1.12
Livingston, Tex.	1.15
Bosco, La. (Jan. 16, 1936)	1.05
Evangeline, La.	1.07
Welsh, La.	.96

Cleveland and Hardin by Magnolia; Greta by Texas Co.; Refugio by Humble; Tomball by Humble and Magnolia; Lafitte by Texas Co.; Bosco by Pure; Evangeline and Welsh by Stanolind Oil & Gas Co.; Livingston by Shell Petroleum Corp.

Middle Western States

OHIO OIL CO.

Lima (Sept. 22, 1936)	$1.15
Illinois (Jan. 9, 1936)	1.23
Princeton, Ind. (Jan. 9, 1936)*	1.23
Midland, Mich. (Sept. 16, 1936)*	1.32
Midland, Mich. (Sept. 28, 1936)†	1.37
West Branch, Mich. (Sept. 16, 1936)	1.16
Muskegon, Mich.	1.00
Eastern Kentucky:	
Big Sandy River (Jan. 9, 1936)	1.30
Kentucky River (Jan. 9, 1936)	1.38
Western Kentucky (Jan. 9, 1936)	1.23

*Posted by Simrall Corp. and Pure Oil Co. and includes Greendale, Porter, Beaverton and Crystal crudes. West Branch, Mich., by Simrall Corp. Eastern Kentucky crude purchased by Ashland Refining Co., Ashland, Ky. †Old Dutch Refining Co.

North Louisiana and Arkansas

Smackover, all grades (Jan. 10, 1936)*	$.75
Smackover, all grades (Jan. 9, 1936)†	.80
Tullos and Urania (Jan. 10, 1936)	.97
Nevada, Ark. (Jan. 10, 1936)	.65
El Dorado East field (Jan. 16, 1936)	.75
Converse, Holly, Pleasant Hill and Zwolle (Jan. 10, 1936)*	1.10
Lisbon, Ark. (Jan. 10, 1936)*	1.10
Elm Grove, La. (Jan. 10, 1936)	.80

*Standard Oil Co. of Louisiana, Gulf Refining Co., Louisiana Cil Refining Co., Texas Co. (effective January 14) and Magnolia Petroleum Co. (effective January 16). Urania by H. L. Hunt Co. and Louisiana Oil Refining Co. Nevada by Standard of Louisiana, El Dorado East field by Magnolia Petroleum Co. Phillips Petroleum Co. (effective January 17), posts 75 cents for all grades in Union and Ouachita counties, Arkansas.

Eastern States

TIDE WATER PIPE LINE CO.
(Effective Jan. 13, 1936)

Bradford, Pa.	$2.45
Allegany, N. Y.	2.45

SOUTH PENN OIL CO.
(Effective Jan. 13, 1936)

Pennsylvania Grade Oil in National Transit Lines (Bradford field)	2.45
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	2.17
Pennsylvania Grade Oil in Eureka Pipe Line lines	2.12
Pennsylvania Grade Oil in Buckeye Pipe Line lines	1.97
Corning Grade Oil in Buckeye Pipe Line Co.'s lines (Sept. 18, 1936)	1.32

PENNZOIL CO.
(Effective Jan. 13, 1936)

Pennsylvania Grade Cil in National Transit Lines:	
Group A — Includes Cochran, Franklin, Hamilton and Doolittle districts.	2.42
Group B — Includes Tidioute district.	2.41
Group C — Includes Turkey and Tidioute districts.	2.40
Group D — Includes Bear Creek and Porkey districts.	2.39
Group E — Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredlin, McJunkin, Jameson, Kenerdell, Emlenton, Tiona, Lacey and Kinzua districts.	2.36

Price depends on lengths of pipe line haul to plant at Oil City.

PURE OIL CO.
(Effective Jan. 13, 1936)

Cabin Creek, W. Va.	$2.12
Bradford Hollow, W. Va.	2.12
Kelly Creek, W. Va.	2.12

Canada

Ontario (Sept. 9, 1933):	
Petrolia*	$2.10
Oil Springs	2.17
Turner Valley (Feb. 3, 1936):†	
Clean naphtha	2.70
Discolored naphtha	2.46
Crude oil, 50 gravity	2.32
Crude oil, 45 to 49.9	2.12
Crude oil, 40 to 44.9	1.55

*Imperial Oil, Ltd. †Imperial Oil, Ltd., and Regal Oil & Refining Co.

Mexico

Panuco*	$.895

*F.o.b. ship, based on September transactions and exclusive of production and export taxes and bar dues.

M. R. Bridgeman, American representative of the Anglo-Iranian Oil Co., Ltd., with offices in New York, has returned from the company's headquarters in London, England. Mr. Bridgeman spent most of the summer abroad.

Crude Prices by Gravities

Gravity—	Oklahoma, Kansas and Salt Creek, Wyo.	Central and North Texas	East Central Texas	North Louisiana, Arkansas	Gray County, Texas	Carson and Hutchinson Counties, Texas	Conroe, Texas	West Texas and Lea County, New Mexico	Gulf Coast, Texas and Louisiana	Anahuac and Dickinson, Texas	Iowa and Cameron Meadows, Texas
Below 20	....	....	....	....	....	....	....	....	$.94	....	$.82
20-20.9	....	....	....	....	....	....	....	....	.94	....	.84
21-21.9	....	....	....	....	....	....	....	....	.96	....	.86
22-22.9	....	....	....	....	....	....	....	....	.98	....	.88
23-23.9	....	....	....	....	....	....	....	....	1.00	....	.90
24-24.9	....	....	....	....	....	....	....	....	1.02	....	.92
Below 25	$.86	....	....	$.78	....	....	....	....	....	....	....
25-25.9	.88	....	....	.80	....	....	....	....	1.04	....	.94
26-26.9	.90	....	....	.82	....	....	....	....	1.06	....	.96
27-27.9	.92	....	....	.84	....	....	....	....	1.08	....	.98
28-28.9	.94	....	....	.86	....	....	....	....	1.10	....	1.00
Below 29	.94	$.84	$.91	....	....	....	....	$.75	....	....	....
29-29.9	.96	.86	.93	.88	....	....	....	.76	1.12	....	1.02
30-30.9	.98	.88	.95	.90	....	....	....	.78	1.14	$1.04	1.04
31-31.9	1.00	.90	.97	.92	....	....	....	.80	1.16	1.06	1.06
32-32.9	1.02	.92	.99	.94	....	....	....	.82	1.18	1.08	1.08
33-33.9	1.04	.94	1.01	.96	....	....	....	.84	1.20	1.10	1.10
34-34.9	1.06	.96	1.03	.98	....	....	....	.86	1.22	1.12	1.12
Below 35	....	....	....	....	$.86	$.81	....	....	....	....	....
35-35.9	1.08	.98	1.05	1.00	.88	.83	$1.24	.88	1.22	1.14	1.12
36-36.9	1.10	1.00	1.07	1.02	.90	.85	1.26	.90	1.22	1.16	1.12
37-37.9	1.12	1.02	1.09	1.04	.92	.87	1.28	.90	1.22	1.18	1.12
38-38.9	1.14	1.04	1.11	1.06	.94	.89	1.30	.90	1.22	1.20	1.12
39-39.9	1.16	1.06	1.13	1.08	.96	.91	1.32	.90	1.22	1.22	1.12
40 and over	1.18	1.08	1.15	1.10	.98	.93	1.34	.90	1.22	1.24	1.12

Magnolia Petroleum Co. in the East Central Texas field pays 7 cents per barrel less than above posted prices in that field.

STANDARD OIL CO. OF CALIFORNIA AND UNION OIL CO.

Crude oil prices at the well effective June 22, 1936

Gravity—	Signal Hill (Long Beach)	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda-Brea Canyon	Athens-Rosecrans	Dominguez	Elwood Terrace	Torrance	Richfield	Whittier E. Coyote (La Habra)	Montebello	W. Coyote Hills	Santa Fe Springs	Mountain View	Elk Hills Buena Vista Hills Midway-Sunset Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge	Kettleman Hills	Santa Paula*	Orcutt*
14-14.9	$.80	$.79	$.74	$.78	$.79	$.80	$.76	....	....	....	$.80	$.76	$.76	$.77	$.78	....	....	$.70	$.70	$.70	....	....	$.70	....
15-15.9	.80	.79	.74	.78	.79	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.70	....
16-16.9	.80	.79	.74	.78	.79	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.70	$.70
17-17.9	.80	.79	.74	.78	.81	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.71	.70
18-18.9	.80	.79	.74	.78	.84	.80	.78	....	....	....	.82	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.73	.72
19-19.9	.82	.79	.74	.82	.87	.84	.81	....	....	....	.85	.76	.78	.77	.78	....	$.70	.74	.74	.71	$.70	....	.75	.74
20-20.9	.85	.79	.74	.85	.90	.88	.84	....	....	....	.88	.78	.92	.77	.80	....	.70	.78	.78	.72	.70	....	.77	.77
21-21.9	.88	.79	.74	.89	.93	.93	.88	....	....	....	.91	.80	.85	.77	.84	$.78	.73	.82	.82	.74	.70	....	.79	.80
22-22.9	.92	.82	.74	.92	.96	.98	.92	....	....	....	.93	.84	.89	.79	.88	.78	.77	.87	.86	.78	.72	....	.82	.83
23-23.9	.95	.86	.77	.96	.99	1.02	.96	$.84	$.79	....	.96	.88	.93	.82	.92	.78	.80	.92	.90	.82	.76	....	.85	.86
24-24.9	.99	.91	.80	1.00	1.02	1.06	.99	.88	.81	....	.99	.91	.96	.85	.96	.82	.84	.97	.94	.86	.79	....	.87	.88
25-25.9	1.03	.95	.82	1.03	1.05	1.11	1.03	.93	.83	....	1.02	.95	....	.89	.99	.86	.88	1.01	.98	.90	.83	....	.90	.91
26-26.9	1.06	1.00	.85	1.07	1.09	1.16	1.06	.98	.86	....	1.05	.98	....	.92	1.03	.90	.91	1.06	1.02	....	....	....	.92	.93
27-27.9	1.10	1.05	.88	1.11	1.12	....	1.10	1.03	.88	....	....	1.02	....	.96	1.06	.95	.95	1.10	1.06	....	....	....	.95	....
28-28.9	1.14	1.10	.90	1.14	1.15	....	1.14	1.07	.90	....	....	1.06	....	.99	1.10	.99	.99	1.15	1.10	....	....	....	.97	....
29-29.9	1.17	1.15	.93	1.18	1.18	F.O.B.	1.17	1.12	.93	....	....	1.09	....	1.03	1.14	1.03	1.02	1.20	1.14	....	....	....	.99	....
30-30.9	1.21	1.19	.95	1.22	1.21	our	1.21	1.17	.95	F.O.B.	....	....	....	1.07	1.17	1.08	1.06	1.25	1.18	....	....	....	1.01	....
31-31.9	....	....	....	....	1.24	Pipe	1.24	1.22	.97	Ship	....	....	....	1.11	1.21	1.12	1.09	1.29	....	....	....	....	....	....
32-32.9	....	....	....	....	1.27	Line	1.27	1.27	1.00	....	....	....	....	1.14	1.25	1.16	1.13	1.34	....	....	....	....	....	....
33-33.9	....	....	....	....	....	....	....	1.32	....	$1.28	....	....	....	1.18	1.28	1.20	1.17	1.38	....	....	....	$1.19	....	....
34-34.9	....	....	....	....	....	....	....	1.37	....	1.32	....	....	....	1.22	1.32	1.25	1.20	....	....	....	....	1.23	....	....
35-35.9	....	....	....	....	....	....	....	1.42	....	1.35	....	....	....	1.25	....	1.29	....	....	....	....	....	1.27	....	....
36-36.9	....	....	....	....	....	....	....	1.46	....	1.39	....	....	....	1.29	....	1.33	....	....	....	....	....	1.31	....	....
37-37.9	....	....	....	....	....	....	....	1.51	....	1.43	....	....	....	1.32	....	1.37	....	....	....	....	....	1.35	....	....
38-38.9	....	....	....	....	....	....	....	1.56	....	....	....	....	....	1.36	....	1.42	....	....	....	....	....	1.39	....	....
39-39.9	....	....	....	....	....	....	....	1.61	....	....	....	....	....	1.40	....	....	....	....	....	....	....	1.43	....	....
40-40.9	....	....	....	....	....	....	....	1.66	....	....	....	....	....	1.43	....	....	....	....	....	....	....	....	....	....

Newhall, McKittrick, Kern River, Kern Front and Round Mountain, 70 cents for all grades. *Posted by Union Oil Co. Same company's Brea Canyon schedule stops at $1.14 for 28 degrees and over, and Belridge and Lost Hills schedule stops at $1.32 for 37 degrees and over.

MARKET RECORD, ACTIVE OIL STOCKS

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1936 High	1936 Low	Week ending Oct. 24 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	Dividends paid in 1935	1935 High	1935 Low	1934 High	1934 Low
125½	75	1,900	101½	98	99¼	Amerada Corp.	788,675	N.P.	50cQ	10-31-36	$2.00	80	48½	55⅝	39
35⅛	26⅝	48,500	31¾	30	30½	Atlantic Refining	2,664,904	$25	25cQ	9-15-36	1.00	28	20½	35¼	21⅛
20	14⅛	15,800	19¼	18¼	18⅝	Barnsdall Corp.	2,131,090	$5	20cQ	11-2-36	‡.20	14¾	5⅞	10	5⅞
23⅜	14	72,500	20¼	19⅜	19⅝	Columbia Gas & Elec.	11,610,036	N.P.	20c	11-16-36	.20	15¾	3⅝	19¼	6⅝
15¼	11½	56,200	14	13⅜	13⅜	Consolidated Oil Corp.	13,983,287	N.P.	40cQ¶	11-16-36	.25	12¼	6½	14¼	7¼
38½	28⅛	27,000	35	33¾	34⅝	Continental Oil of Delaware	4,682,671	$5	50cQ¶	10-31-36	.62½	35	15⅛	22¾	15⅝
34¾	21	4,800	27	25¼	25½	General Asphalt	387,149	$10	25c	12-17-35	.25	22½	11¾	23½	12
12¼	6⅜	23,000	10⅜	9¾	9⅞	Houston Oil (new)	1,098,618	$25	....	10-17-30	....	7	1½	5⅝	2½
29⅜	17¼	37,800	29⅜	26⅞	29¼	Mid-Continent Petroleum	1,843,872	$10	75cSA	12-1-36	.40	20½	9½	14⅜	9⅛
26¼	16¾	7,700	23	21¼	22⅝	Mission Corporation	1,399,345	N.P.	....	.....	....	17¾	10⅝	..	..
70⅞	19⅞	6,200	70⅞	67½	67½	National Supply of Delaware	382,591	$25	....	5-15-31	....	20⅞	9	21⅛	10
17½	12⅛	49,900	14¼	13¼	14	Ohio Oil Co.	6,563,377	N.P.	25cSA	6-15-36	.80	14¼	9¼	15⅞	8½
18⅛	11⅜	12,900	18⅛	15¾	17½	Pacific Western Oil	1,000,000	N.P.	25c	12-23-35	.25	14	6¾	9⅜	5½
4¼	1⅜	600	2½	2¼	2⅜	Panhandle P. & R.	198,770	N.P.	....	.....	....	1⅞	½	2½	⅝
49⅜	38⅛	34,100	46¼	44½	45¾	Phillips Petroleum	4,449,467	N.P.	50cQ¶	9-1-36	1.25	40	13¾	20¾	13⅜
17½	11⅞	18,200	17½	16⅛	17	Plymouth Oil Co.	1,050,000	$5	25c	9-30-36	.25	13	6½	16¾	7¼
24⅞	16	65,500	19¼	17⅝	18⅛	Pure Oil Co.	3,038,370	N.P.	....	9-1-30	....	17	5⅞	14⅞	6⅛
43⅝	30½	12,100	34⅞	33	33½	Seaboard Oil of Delaware	1,244,283	N.P.	25cQ	9-15-36	1.00	36⅞	20¾	38⅜	20¾
27⅜	14⅜	52,900	27⅜	24¾	27¼	Shell Union Oil	13,070,625	N.P.	....	6-30-30	....	16½	5½	11½	6
125¼	110½	5,200	125¼	123¾	125¼	Shell Union Oil pfd.	400,000	$100	1.37½	10-1-36	....	111	63⅛	89	57
6¾	3½	2,500	4⅛	3⅞	4	Simms Petroleum	461,698	$10	1.25 liq.	7-20-36	11.75 liq.	18¾	4¾	17⅛	7¼
36	19½	25,500	36	33¼	35⅞	Skelly Oil	1,008,514	$15	....	12-15-30	....	20½	6½	11½	6
17⅛	12½	187,700	17⅛	16¼	17	Socony-Vacuum	31,151,075	$15	25cSA	9-15-36	.30	15¾	10⅝	19⅞	12½
47⅝	35	26,300	40⅛	38¼	39⅞	Standard Oil of California	13,014,754	N.P.	30cQ¶	9-15-36	1.00	41⅛	27¾	42⅞	26½
40¼	32¾	22,400	40	39¼	39⅝	Standard Oil (Indiana)	15,215,677	$25	25cQ†	9-15-36	1.00	33⅜	23	32¾	23¼
30¾	25	500	30	30	30	Standard Oil of Kansas	200,000	$10	....	10-31-34	....	32	20	41	26
70	51⅛	109,500	68⅝	64¼	68¼	Standard Oil of New Jersey	25,856,081	$25	75cSA¶	6-15-36	‖1.25	52⅜	35¾	50⅛	39¼
91	72	1,800	83	79¾	80½	Sun Oil	1,733,013	N.P.	25cQ	9-15-36	$1 & 7% Stk.	77	60½	74¼	51½
45¾	28⅞	66,800	45⅜	42⅞	45⅜	Texas Corp.	9,340,069	$25	25cQ†	10-1-36	1.00	30¼	16½	29⅜	19⅝
15¼	9¼	18,600	13¾	12⅝	12¾	Texas Pacific Coal & Oil	880,703	$10	25c	8-1-36	....	9¼	3¼	6½	2½
19¾	14⅜	46,500	19¾	19	19½	Tide Water Associated	5,642,342	N.P.	15cQ	12-1-36	....	15⅞	7⅝	14⅝	8
106½	100⅝	800	105	104	105	Tide Water Associated pfd.	626,221	$100	$1.50Q	10-1-36	$6.50	104½	84	87	64½
28½	20¾	8,500	23¾	22¼	23¼	Union Oil of California	4,386,070	$25	25cQ	8-10-36	1.00	24	14¾	20½	11½
31⅝	22⅝	1,900	29⅞	29	29⅛	Union Tank Car Co.	1,200,000	N.P.	30cQ	9-1-36	1.20	26½	20⅞	25¾	15⅝
11	6⅝	1,500	3½	3⅛	3¼	Wilcox Oil & Gas	424,839	$5	....	5-10-28	....	3⅛	1	5¾	2

*Ex-dividend. †Plus extras. ‡Also 50 per cent in stock of Barnsdall Ref. §Partly on account of accumulation. ‖Dividend 4/75 Mission Corp. paid 3-15-35. ¶Includes extras.

New York Curb Exchange

1936 High	1936 Low	Week ending Oct. 24 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	Dividends paid in 1935	1935 High	1935 Low	1934 High	1934 Low
21	13¼	4,400	18⅞	18	18	Bridgeport Machine Co.	260,000	N.P.	....	5-1-30	....	14⅛	3¾	3¾	½
50	39¾	250	45¾	45	45¾	Buckeye Pipe Line Co.	200,000	$50	75cQ	9-15-36	$3.00	42½	30½	38	26
4⅞	1⅞	54,500	2⅞	2¼	2½	Carib Syndicate	799,020	25c	....	.....	....	4¼	1⅝	5½	1⅛
124¾	105	150	119¾	118	118	Chesebrough Mfg. Co.	120,000	$25	$1.50Q	9-30-36	6.50	157	115	150	116
7⅜	3	65,300	4¾	4	4⅜	Cities Service	37,804,394	N.P.	....	6-1-32	....	3¼	¾	4¼	1⅛
4	⅝	200	3⅛	3⅛	3⅛	Colon Oil	2,200,000	N.P.	....	.....	....	2⅛	½	3¼	½
4⅛	1½	83,600	3⅞	3¼	3¼	Cosden Oil	399,687	$1	....	.....	....	1½	¼	3⅞	½
34⅜	19⅞	9,400	28⅝	27¾	27¾	Creole Petroleum	6,974,356	$5	25c	7-15-36	.20	23¾	10	14⅜	9⅝
14⅛	9	5,500	14⅛	13⅛	13⅞	Darby Petroleum	351,390	$5	25cSA	7-15-36	.50	8⅞	4	7½	4⅛
6¾	1⅛	6,400	6⅛	5⅞	6	Derby Oil & Refining	263,162	N.P.	....	.....	....	2	¾	2¼	1
46½	38½	100	46½	46	46½	Eureka Pipe Line	50,000	$50	$1Q	11-2-36	4.00	38	33¼	37	30
104¾	72	7,000	101⅛	99	100½	Gulf Oil Corp.	4,538,101	$25	25c	10-1-36	....	74¾	50¼	76¾	49¾
76½	57	8,200	67⅜	65	66¼	Humble Oil & Refining (new)	8,923,935	N.P.	50c†	10-1-36	1.25	64	44	49½	33¼
24½	20	11,200	23⅛	22⅜	23	Imperial Oil of Canada	26,919,871	N.P.	62½cSA†‡	6-1-36	1.25	22½	15⅜	17⅞	12⅝
9¼	5½	600	9½	9¼	9¼	Indiana Pipe Line	300,000	$10	40cSA†	11-14-36	35	6⅛	3⅝	6⅞	3⅝
39⅝	32⅞	10,900	37⅜	36½	37	International Petroleum	14,247,088	N.P.	$1.25†‡	6-1-36	2.50	39¾	28	33⅜	19⅜
15⅜	9⅞	17,200	13⅞	13	13⅛	Louisiana Land & Exp.	3,000,000	N.P.	10cQ	9-15-36	.10	11⅜	4⅜	5	2⅛
15½	7¾	4,400	14⅜	13⅞	14⅜	Lion Oil Refining	270,000	N.P.	50c	10-15-36	....	8⅛	3½	6	3⅜
14¼	9⅞	4,300	13	12¾	12¾	Lone Star Gas	5,382,723	N.P.	20cSA	8-15-36	.30	10⅞	4½	8⅜	4¼
8⅜	5	2,100	5⅜	5¼	5¼	Mountain Producers	1,682,182	$10	30cSA	7-1-36	.90	5¾	4⅛	5½	4
23	17⅝	2,200	19⅞	19⅛	19⅛	National Fuel Gas	3,810,183	N.P.	25cQ	10-15-36	1.25	20	11¾	18⅛	13⅛
15¾	9¼	1,000	12	11¼	11½	National Transit	509,000	$12.50	40cSA	6-15-36	.75	10⅝	6¾	9½	7
4½	2⅞	2,200	3¾	3⅛	3⅛	New Bradford Oil	1,445,202	$5	10cSA	5-15-36	.20	3¼	2	2½	1⅜
6⅝	1⅝	1,100	3¼	3⅛	3⅛	New Mexico and Arizona	1,000,000	$1	....	.....	....	2½	1	2¾	1
6¼	4¼	500	5⅛	5⅛	5⅛	New York Transit	100,000	$5	15cSA	10-15-36	.30	4⅞	3	4¾	3
9¼	4⅞	300	8¾	8½	8½	Northern Pipe Line	120,000	$10	15cSA	7-1-36	.50	8	5¼	7	4⅝
6⅝	3¼	15,000	5¾	5½	5½	Pantepec Oil	1,608,700	N.P.	....	.....	....	4⅜	1¼	2⅝	⅞
19¼	4½	10,900	16¼	15	16	Root Petroleum Co.	336,045	$1	25c	8-1-36	....	5	1½	..	..
4¾	1⅞	500	3¼	3	3⅛	Ryan Consolidated	296,931	N.P.	....	.....	....	2½	⅝	3⅜	⅞
..	..	No sales	..	..	..	Salt Creek Producers	1,496,859	$10	40cSA	6-30-36	1.20	7½	5½	7⅞	5½
40⅞	32½	900	40¾	39⅞	39⅞	South Penn Oil	1,200,000	$25	60c†	9-30-36	1.35	34½	21⅝	26½	17½
7⅞	3¼	No sales	..	..	..	Southern Pipe Line	100,000	$10	10cSA	9-1-36	.30	5	3⅞	5½	3½
60	54	No sales	..	..	..	Southwest Penna. Pipe Lines	35,000	$50	$1.00Q	10-1-36	5.00	56	44¼	47	41
23⅜	17¼	4,200	20⅜	20⅛	20⅜	Standard Oil of Kentucky	2,604,790	$10	35c	9-15-36	1.25	24	18	18⅜	14⅝
14⅝	11	100	13	13	13	Standard Oil of Nebraska	188,403	$25	....	6-20-34	....	12	7¾	16⅞	8¼
40	21¾	12,600	40	36¾	38¾	Standard Oil of Ohio	753,740	$25	25c	10-15-36	....	23⅝	11½	28½	12¼
5	2⅝	5,500	3¼	3	3⅛	Sunray Oil	1,910,248	$1	5c	9-1-36	....	2⅞	⅞	2	⅓
9⅜	5⅜	1,200	5¾	5⅝	5¾	Texon Oil & Land	336,028	N.P.	15cQ	9-30-36	.60	6⅞	5	11	4⅜
7⅛	4⅜	20,600	6½	5⅞	6	Texas Gulf Producing Co.	888,087	N.P.	....	12-29-34	....	4¾	2½	7	3⅝

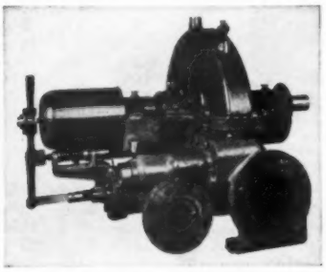
*Ex-dividend. †Includes extras. ‡Payable in Canadian funds.

Note—In comparing highs and lows for the several years in the two tables, it will be necessary to take into consideration cases where there have been stock split-ups.

NEW OR IMPROVED EQUIPMENT

Explosion-Tested, Fan-Cooled Motor of New Type Offered

A new and improved design of Westinghouse type SK explosion-tested, fan-cooled, totally enclosed, direct-current motors is now available in sizes from 5 to 75 horsepower and 115, 230 and



550 volts. They are designed for use in locations where explosive gases or dust may exist.

The brushes and commutator are readily accessible. The motor is designed with the fan on the commutator and a gear-case, coupling, or pulley will not restrict ventilation. Accessibility is obtained by the use of a double-walled bracket on the commutation end. This bracket is equipped with handhole covers which are readily removable to permit inspection and adjustment of the brushes and commutators.

Type SK explosion-tested, fan-cooled motors are designed, built and tested to withstand an internal explosion of gas (methane) or coaldust without injury to the equipment and without emitting flames or sparks which would ignite surrounding gas.

The presence of a fan on the commutator end forcing a large volume of cooling air through properly located air passages makes possible high continuous capacity with minimum size. Due to the unique design of the double-walled bracket, mounting the fan on the commutator end is accomplished without interfering with the accessibility to the brushes and commutator.

To guard against the covers being removed by unauthorized persons, each cover is provided with a hole in the web for insertion of either a wire meter seal or chain and lock.

Bulletins, Booklets and Other Literature for the Trade

The Garlock Klozure, described as "a superior oil seal," is the subject of a 40-page booklet mailed on request by the Garlock Packing Co., Palmyra, N. Y. It gives detailed information regarding this sealing-ring, along with a list of the sizes in which it is made.

Many of the newer Bakelite products are pictured and described in the current number of the Bakelite Review, published by Bakelite Corp., 247 Park Avenue, New York.

Interesting construction projects in which Hercules wire rope plays an important part are discussed and illustrated in the October-November issue of the Hercules Record, published by A. Leschen & Sons Rope Co., St. Louis, Mo.

Wheatley Bros., pump and valve manufacturers, Sand Springs Road, Tulsa, have issued a 26-page catalog devoted to photographs and data on Wheatley pumps and other principal products of the company.

The National Electrical Manufacturers Association, 155 East Forty-fourth Street, New York, has announced publication of the NEMA Electric Arc-Welding Machine Standards, a reference work of practical information concerning the manufacture, test and performance of direct-current and alternating-current arc-welding machines. The price is 50 cents.

The Bridgeport Machine Co.'s various ways of serving the oil industry are emphasized in the latest number of the Bridgeport Bulletin, published at the company's office in Wichita, Kans.

"Drilling Wells Down to Two Miles Deep" is the subject of a comprehensive article which leads the fall number of Inco, published by the International Nickel Co., New York.

One of the articles in the current number of Hot Shots, published by the Lane-Wells Co., Los Angeles, Calif., tells how formation energy is conserved by scientific perforating in Bay City, Tex., field.

Ensign Distribution Widened

The Portable Rig Co. of Houston, Tex., (an established Ensign Carburetor Co. distributor), has opened new branches in Corpus Christi and Big Spring, Tex. These are added to branches of the company already established in Dallas and Longview, Tex., and will provide valuable links in Ensign's distribution facilities throughout the oil and gas fields.

H. E. McConnell Is Appointed to Post With Durnite Co.

H. E. McConnell, formerly of Wales-Dove-Hermiston Corp. as sales engineer, has been appointed vice president in charge of sales and

H. E. McCONNELL

chief engineer for the Durnite Co. of Detroit, Mich. Mr. McConnell has had 18 years' experience in pipe-line coating work, and has spent much time in research work studying corrosion and electroylsis. Although his headquarters are in Detroit, most of his time will be spent in Tulsa and the Mid-Continent area.

Leaks in Pipelines Effectively Stopped by Skinner Clamp

The demand for easily applied clamps for permanently stopping large or small leaks in pipelines is responsible for the redesigned pipe clamp

illustrated, a product of the M. B. Skinner Co., 3755 West Sample Street, South Bend, Ind.

The new specifications for these clamps require a metal of higher tensile strength, uniform density and hardness. To insure that every clamp is as perfect as possible, the company has installed equipment to test every clamp under a pressure of 3,000 pounds before it leaves the factory.

These clamps may be used when leaks show up in steam, hot-water or vapor pipe going back into service, or when frost splits or bursts exposed pipes. They are available for stopping leaks in air, gas, steam, vapor, gasoline, oil, chemical, brine and all other types of pipelines, high or low pressure.

New Pressure Drilling Office

The Pressure Drilling Co., distributor of a complete line of pressure drilling equipment and offering an engineering service in pressure-control problems, has opened offices in the Second National Bank Building, Houston, Tex. The two partners in this firm, James C. Fortune and W. Ratliff Walne have had a wide experience in this class of work. Mr. Walne was with the Mexican Eagle and Seaboard companies in Mexico and the Sheldon-Burden Co., having been in charge of the latter's activities in the West Indies, South America and Canada, as well as some of its work in the United States. Mr. Fortune was drilling superintendent for the Mexican Eagle for six years, after which he was engaged in pressure-control problems in the United States, Venezuela, Canada, India and Burma. The Pressure Drilling Co. has made arrangements with the Reed Roller Bit Co. to manufacture the equipment formerly made by the Emsco Derrick and Equipment Co. under Fortune patents.

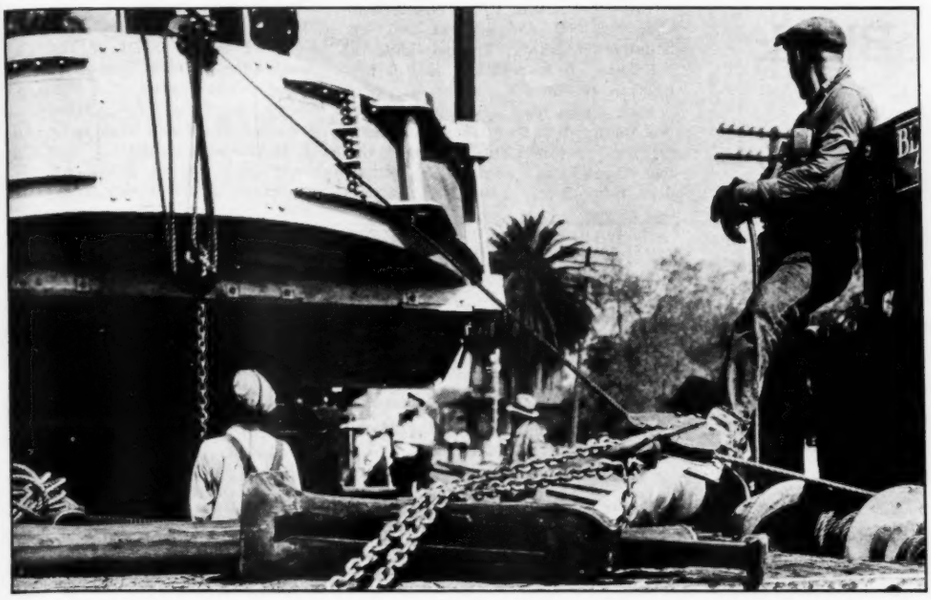
To Make Wodack Tools in England

Arrangements have been completed for the manufacture of Wodack portable electric tools in England, according to an announcement made by the Wodack Electric Tool Corp., of Chicago. The tools will be manufactured by the Climax Rock Drill & Engineering Works, Ltd., 4 Broad Street Place, London, from designs and patterns identical with those used in the Wodack plant in Chicago. Distribution of the tools by the Climax sales organization will cover Great Britain and the British dominions, with the exception of Canada.

Carson Appointed by Security

Carson Machine and Supply Co. of Oklahoma City, Okla., has been appointed by Security Engineering Co. of California as distributor in Oklahoma and Kansas for Seivers reamers. Carson maintains branches in Fittstown, Seminole and Perry, Okla., and Lyons, Kans.

TRUSTING A FORTUNE TO AN OIL-FIELD WINCH



Oil-field winches sometimes are called upon to do unusual duty outside the oil industry. Here is the famous million-dollar 200-inch telescope lens being carefully moved into the laboratories of the California Institute of Technology for grinding and polishing. The Belyea Trucking Co. handled the job, using a self-locking winch built by the Hutchins Winch Co. of Los Angeles, Calif.

Here and There With Men Who Manufacture Equipment

C. W. Cotton Co., Tulsa, has been appointed distributor for Shand & Jurs Co., Berkeley, Calif., for Oklahoma and Kansas. It will work under the general Mid-Continent and Gulf Coast headquarters of Shand & Jurs in Houston, Tex.

The Moorlane Co., 409 East Archer Street, Tulsa, has been appointed sales representative by the George P. Reintjes Co., Kansas City, Mo., for Reintjes furnace-wall and arch-construction materials.

J. H. Galloway, formerly sales manager for De La Vergne Engine Co., is now representing Nordberg Manufacturing Co. as manager of its Kansas City, Mo., office.

C. J. Fechheimer, widely known designing and research engineer, has joined the staff of the Louis Allis Co., Milwaukee, Wis., manufacturer of electric motors, in the capacity of consulting engineer.

Manufacturers and distributors of products made of Armco metals are planning to capitalize on the new broadcasts sponsored by the American Rolling Mill Co., of Middletown, Ohio. The Armco band and the "Ironmaster" will return to the air on Sunday, November 28.

The Kropp Forge Co., established in 1901, has announced the resignation of Charles A. Kropp as president and the election of Roy A. Kropp to succeed him. Charles A. Kropp will serve as chairman of the board of directors.

Filtering Can Insures Clean Oil

The engineering department of the Justrite Manufacturing Co., Chicago, Ill., has collaborated with the engineering department of the Pure Oil Co. in developing the Justrite lube-oil filtering can for transferring lubricating oil, uncontaminated, from the original drums to force-feed lubricators.

In most plants there is much dust, sand and grit in the air. It pervades oil receptacles and cans so that it is practically impossible to fill a lubricator with clean oil. Oil is easily contaminated in its journey from the original source of supply to the oiler or motor. It would be practically impossible to find a suitable container that is kept perfectly clean and free from dust to transfer oil from one spot to another and keep it free from contamination. Even wiping out a can or measure does not rid it of all the dust and grit.

The Justrite lube-oil filtering can maintains an absolutely clean compartment for transmission of oil from drum supply to lubricator and any impurities are taken out of the oil before it gets to the dispensing spout. The Filterite oil-can is used without the funnel.

Timken Introduces New Series of High-Temperature Steels

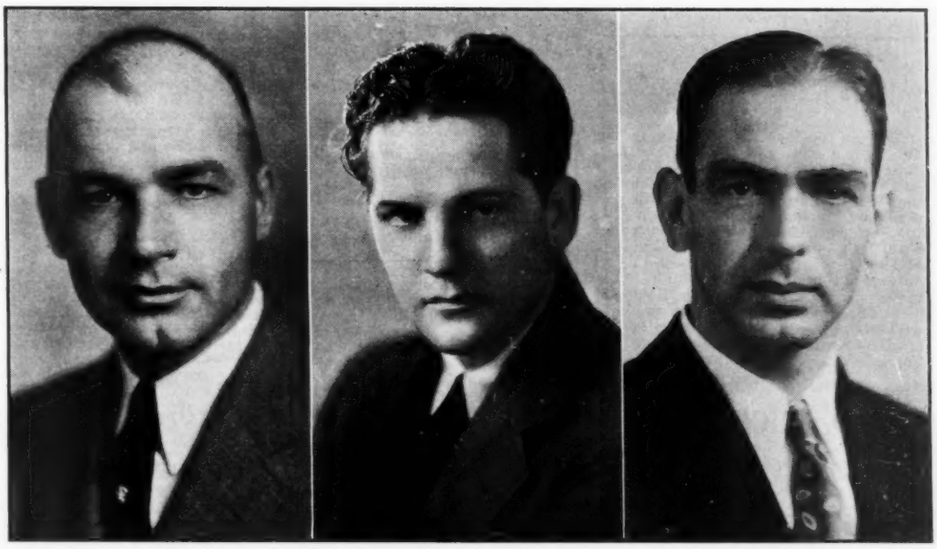
To enable engineers and operators to achieve the economic balance essential to minimum production costs in refinery and other high-temperature operations, the Timken Steel & Tube Co. has developed a new series of steels, Sicromo 1, 2, 3 and 5. These new high-temperature steels extend the economic possibilities outlined by Timken DM steel. Sicromo steels contain the 0.50 per cent molybdenum which has been found most effective for increasing creep strength on an economic basis. Their high silicon content develops the desired degree of oxidation resistance while economic resistance to corrosion is assured by the varying percentages of chromium indicated by the numbers.

Sicromo 1, 2 and 3 are particularly suitable for use in high-temperature applications where low to medium oxidation and corrosion resistance is required. Sicromo 5 is designed for use where severe corrosion and oxidation is encountered, yet where equipment cost must be held to the minimum consistent with economic life and efficient operation.

Lincoln Arc-Welding Handbook

The Lincoln Electric Co., Cleveland, Ohio, announces a new and enlarged edition of the Procedure Handbook of Arc-Welding Design and Practice. The handbook, containing 819 pages and 990 numbered text illustrations, includes all new data essential for the most efficient use of arc-welding in all its varied applications. It will be mailed, postpaid, to any address in the United States for $1.50; outside United States, $2. New data include complete information on the following subjects: Characteristics of the welding generator, selection of type of joint, insurance of fusion-welded vessels, welding codes, arc cutting, polarity of welding current, horizontal welds, sheet-metal welding, effect of electrode size on welding cost, methods of testing weld metals, 4-6 chrome steel, Monel metal, principles of surfacing by welding, welded design begins with standard shapes and plates, plate girders. The handbook, revised in the light of present-day arc-welding practice, is a complete guide for all interested in arc welding.

BRADECO IS NOW ALLIED STEEL PRODUCTS CORP.



E. C. HINKEFENT *DUKE B. MERRILL* *JOHN E. KIRKPATRICK*

Expanding the business formerly conducted under the name Bradeco Steel Service Co., established in 1932 by E. C. Hinkefent and Duke B. Merrill, Allied Steel Products Corp. has been organized with headquarters at 1407 North Peoria Avenue, Tulsa. A complete field erection service is offered. Products include structural steel, fabricated structural steel, sectional steel buildings, sheet-metal products, steel sash and oil-field accessories.

E. C. Hinkefent, long identified with the steel building industry, is president of the new corporation. Duke B. Merrill is vice president, and John E. Kirkpatrick is secretary and treasurer.

Chartiers Oil Co. Has Well on Big Michigan Block

By PAUL A. ELLIOTT

MOUNT PLEASANT, Mich., Oct. 26.—The Chartiers Oil & Gas Co. No. 1 Currie in Isabella County flowed 5,853 bbls. in six days in the past week in review, on two days exceeding 1,100 bbls. a day. This and Pure Oil Co. No. 4 Root, in Midland County, which flowed 1,237 bbls. in 24 hours following an acid treatment, were the best wells of the week in Michigan. The Chartiers well produces 45 gravity oil. The company has 3,000 acres under lease around the well.

Completions of the week in the state were as follows:

Pure Oil Co. No. 4 Root, C N half SE SE section 2-13-2w, Midland County, Dundee at 3,408 feet, pay at 3,422-31 feet, total depth 3,438 feet, acidized, initial production 1,237 bbls.

Pure Oil Co. No. 25 Narmore, SW SW NW section 15-13-1w, Midland County, Dundee at 3,358-3,425 feet, acidized, initial production 821 bbls.

Rex Oil & Gas Co. No. 4 Howland, SE SW NW section 23-13-1w, Midland County, Dundee at 3,374-3,412 feet, acidized, initial production 260 bbls.

Chartiers Oil Co. No. 1 Currie, C S half SW SW section 5-16n-4w, Isabella County, Dundee 3,908-26½ feet, acidized, flowed 5,835 bbls. in six days against a back pressure.

M. F. Whitehill No. 2 King, SE SW NW section 2-17n-2w, Gladwin County, Dundee at 3,821 feet, pay at 3,882-91 feet, 250 bbls. naturally.

Temblyn & Martindale, No. 1 Buffalo Land Co., SE NE NE section 7-19-3e, Arenac County, dry and abandoned at 3,063 feet.

Gordon Oil Co. No. 1 Mahoney, NW NW NW section 19-22n-2e, Ogemaw County, Dundee at 2,614-77 feet, acidized, initial production 153 bbls.

Emmett J. Kelly No. 1 Meir, NW SW NW section 27-22-2e, Ogemaw County, Dundee at 2,541-2,721 feet, shot with 170 quarts, initial production 35 bbls.

Terry Dale Michigan Corp. No. 1 Tew, SW SW NE section 12-6n-7w, Ionia County, dry and abandoned at 4,553 feet.

Massegan Gas Co. No. 6 Shaver, C SW SW section 4-10-4w, Gratiot County, pays at 972-74 feet, 989-97 feet, 999-1,000 feet and 1,001-08 feet, initial production 13,546,000 feet of gas.

W. E. Ross No. 1 Harrison, C SE NE section 4-10n-4w, Gratiot County, pays at 959-61 feet and 981-87 feet, 7,300,000 feet of gas.

A. B. T. Trustees No. 1 Strait, NE SE SW section 34-11-5w, Montcalm County, Dundee sand at 3,208-13 feet, initial production 97 bbls.

Eagle Oil Corp. No. 1 Hoover, C NE SE section 36-11-5w, Montcalm County, pay at 1,004-05 feet, 903,000 feet of gas.

Snyder Drilling Corp. No. 2 Mangus, SE NE SW section 36-11-5w, Montcalm County, Dundee sand at 3,190-91½ feet, acidized, initial production 160 bbls.

Max Pray No. 1 Shippey, C NW NE section 5-12-7w, Montcalm County, total depth 1,311 feet, 6,141,000 feet of gas. Same owner's No. 2 Shippey, total depth 1,309 feet, 439,000 feet of gas.

Wiser Oil Co. No. 1 Clayton, C NE SW section 15-12n-7w, Montcalm County, dry and abandoned at 1,259 feet.

Fletcher & Leman No. 1 Albaugh, C SW SE section 19-12n-5w, Montcalm County, dry and abandoned 1,256 feet.

Dr. R. L. Doan, formerly of the Ryerson Laboratories, University of Chicago, has recently joined the research staff of Phillips Petroleum Co. and is the head of the newly created Geophysical Research Section. Other recent additions to Phillips research staff include Anthony Andrutsopulos (Miami University, Ohio), H. M. Arakelian (M.I.T.), S. S. Chazanow (O.U.), J. L. Richmond (M.S., University of Michigan), T. B. Strickland (M.S., University of Michigan), and Tom Tarr.

Dana H. Kelsey, vice president of Sinclair Prairie Oil Co., has returned to Tulsa from a 10-day field trip in Texas. While in the Lone Star state he visited his 98-year-old father, John B. Kelsey, at Haralson, Tex.

GULF COAST WATER SHIPMENTS IN AUGUST, 1936

Company and terminal—	Crude—Coastwise	Crude—Export	Refined—Coastwise	Refined—Export	Total
Atlantic Pipe Line Co.:					
Atreco	1,320,137.16	.....	7,357.41	.....	1,327,494.57
Texas City	344,036.88	.....	4,526.82	.....	348,563.70
Harbor Island	609,997.91	.....	.....	.....	609,997.91
Coastal Refiners:					
Port Isabel	973,539.00	46,937.00	89,539.00	.....	1,110,015.00
Gulf Oil Corp.:					
Port Arthur	402,363.70	.....	2,368,056.03	143,064.65	2,913,484.38
Humble Oil & Ref. Co.:					
Baytown	484,282.14	611,141.49	2,330,060.40	396,083.17	3,821,567.20
Harbor Island	2,091,608.53	.....	.....	.....	2,091,608.53
Texas City	594,535.78	.....	.....	.....	594,535.78
Neches	.....	.....	.....	.....	.....
Ingleside	32,557.26	.....	.....	.....	32,557.26
Magnolia Pet. Co.:					
Beaumont	1,090,467.73	.....	2,272,948.00	.....	3,363,415.73
Pure Oil Co.:					
Smith Bluff	532,115.00	.....	863,406.00	.....	1,395,521.00
Shell Pet. Corp.:					
Houston	316,746.00	92,467.00	1,190,129.00	235,565.00	1,834,907.00
Norco	.....	.....	280,646.00	.....	280,646.00
Standard Oil Co.:					
Baton Rouge	81,320.40	.....	1,435,709.10	262,954.17	1,779,983.67
Sun Pipe Line Co.:					
Sabine Pass	1,439,587.00	.....	.....	.....	1,439,587.00
Texas Co.:					
Port Arthur	1,032,025.00	684,910.00	2,580,140.00	693,302.00	4,990,377.00
Miscellaneous	4,550,373.72	1,143,608.00	4,434,094.27	481,349.24	10,609,425.23
Total	15,895,693.21	2,579,063.49	17,856,612.03	2,212,318.23	38,543,686.96

CLASSIFIED ADVERTISING

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Brokers—Salesmen

Sell in the most active area in the United States — The Permian Basin of West Texas and Southeastern New Mexico. From the standpoint of royalty investors this area has much to offer. Can supply you with choice non-producing royalties located on geophysical highs. Also drilling blocks, close in acreage to production, or wildcat leases. I maintain my own field men who cover this area for me. All offerings meet the requirements of the Securities and Exchange Commission. Inquiries invited.

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Paul Brown Bldg., St. Louis, Mo.

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for dealers
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W. R. Brown & Co., Inc.
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Producing and Non-Producing Royalties.
Bosco, Van, Rodessa, West Texas.
Wholesale — Retail.
W. E. HOUSEL
11 East 44th Street, New York City.

Royalties—Production

NEW MEXICO Oil and Gas Leases and royalties. Send 50 cents in stamps for new State Oil Map of New Mexico. Roy G. Barton, Clovis, New Mexico.

F. A. SANSOME

Maintains a Complete Trading Organization for Brokers, Banks and Dealers
In
Oil Royalties
522 Fifth Avenue, New York, N. Y.

Drilling Operators — Should you be in need of acreage for a well or developing—advise if interested in outright purchase, or along other lines, and whether proven—semi-proven—or wildcat, and if (shallow) or (deep) acreage, and the states interested. Many available worthy of an investigation, must be clean deals. Address Box H-500, The Oil and Gas Journal, Tulsa, Oklahoma.

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When you are interested in High Class producing Landowners royalties at wholesale, write or wire

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Royalties—Production

PROGRESS SYNDICATE LUGANO WISHES TO REPRESENT in Switzerland American Products and Chemical Processes and TO ARRANGE AGENCIES in Tulsa and the U.S.A. for Swiss products. FIRST SWISS DEALERS in oil royalties and lease-interests. Propositions and offers solicited. Henri Brandli, Ingenieur, Poste restante, Lugano, Switzerland.

Two story modern home located best residential district west side Muskogee. Will sell or exchange for producing royalty. State particulars, location of royalty. Address Box H-495, The Oil and Gas Journal, Tulsa, Oklahoma.

---

920 acres land, timber, mineral rights, Marion County, Alabama, prospect Johnson ford geological area. Old prospective drill site. Geographically located. Excellent opportunity for investment. Price $5 acre. D. Cooper, Hamilton, Alabama.

PRODUCING OIL ROYALTIES
15 years of experience.
L. H. WITWER
214 Kennedy Bldg., Tulsa, Okla.

FOR SALE—ROYALTY IN LEA & ROOSEVELT COUNTIES N. MEX. under major oil company leases. J. W. Wallrich, Lovington, New Mex.

ANDREW J. BARRETT
The Philtower
Tulsa, Oklahoma.

OKLAHOMA CITY AND FITTS
Royalties Quoted Dealers.
W. E. COOK
Perrine Bldg., Oklahoma City, Okla.

HIGH GRADE producing oil and gas royalties offered to dealers. Billie Smallwood, P. O. Box 2261, Tulsa, Oklahoma.

Business Opportunities

GEOLOGIST desires connection on percentage basis plus expenses. Highest credentials. Address Box G-823, The Oil and Gas Journal, 415 Lexington Avenue, New York City.

AIRPORT LOCATION WANTED
An Eastern Corporation, now Operating wishes new location, preferably in the west, have six ships, from Trainer to seven place cabin jobs, would consider building hangar on ten year lease. What have you to offer? Allentown Aviation Corps., Allentown, Pennsylvania.

CAPITAL negotiated drill test well on lease block. Write Charles W. Barrick, New Martinsville, West Virginia.

Mailing Lists

MAILING LISTS

Royalty investors by deed and retail royalty brokers. Also, brand new list of Fitts pool royalty owners. Personnel lists of producers, refiners, gaso. mfrs., pipe lines, drilling contractors, etc. Oil Industry Mailing List Co., 909 Tulsa Loan Bldg., Tulsa, Oklahoma.

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REGISTERED PATENT ATTORNEYS
United States and Canada
Before disclosing your invention to anyone, send for blank form:
"Evidence of Conception."
Instructions "How to Establish Your Rights" and complete information FREE!
LANCASTER, ALLWINE & ROMMEL
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Washington, D. C.

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Porosity-Permeability-Saturation Tests.

KEY HEADERS, sizes for 3½" and 4½" OD tubes, ideal for cracking, reforming, viscosity breakers, etc. Large stock up-to-date refinery equipment. Priced for quick sale.

Phone— Wire— Write—

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Main Office—1446 Guinotte Ave., Kansas City, Mo.

Branches

Sapulpa, Okla. Arkansas City, Kans. Pyote, Texas.

25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine-Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air compressor, Six-inch Oster Pipe Threading Machine. Also large stock of lathes, pipe machines, milling machines, etc. Send for our list. Terms to suit.

CINCINNATI MACHINERY & SUPPLY CO.
26 West 2nd St. Cincinnati, Ohio.

SEVERAL USED ROTARY RIGS
Spudders and Drilling Machines.
Several Steel Derricks & Rotary Equip.
J. S. Daniel, Beacon Bldg., Tulsa.

GAS METERS
Westcott, Foxboro and Emco Orifice Meters, Large Capacity Iron Case, Sprague and Ironclad Positive Meters. Geo. R. Milner, Okmulgee, Oklahoma.

BARGAINS—Demonstrator Arc Welders. Gasoline and electric drive. 30 days' trial. Easy terms if desired. Write Ken's Exchange, Box OG-1064, Troy, Ohio.

FOR SALE—42 insulated TANK CARS reasonably priced good condition capacity 8,000 gallons. The Henderson Co., 604 Oliver-Eakle Bldg., Amarillo, Texas.

2—300 Ampere Lincoln Welders, speed control, A-1 condition. Service Co., 3732 Cedar Avenue, Cleveland, Ohio.

FOR SALE—1 No. 2-A National all steel pulling machine. Drilled 3 shallow wells. I. T. I. O. Company, Bartlesville, Oklahoma.

50,000 feet 8" 29-lb. line, 30,000 8¼" 28-lb. A-1 pipe. Robinson Pipe Line Contracting Co., Robinson, Illinois.

FOR SALE: 1—Type 10 Lee C. Moore Champion Spudder and Cleaning out machine and 1—Allis-Chalmers Tractor to operate. I. T. I. O. Company, Bartlesville, Oklahoma.

FOR SALE: 1—30 x 36 x 10' and 1—36 x 48 x 10' Braden Sectional Steel Building now erected near Barnsdall and Hominy, Oklahoma. I. T. I. O. Company, Bartlesville, Oklahoma.

Engines For Sale Cheap. 2 Franklin, 30 HP; 2 Bessemer, 25 HP; 2 J C, 25 HP; 1 Superior, 25 HP. 4 mi. west Henryetta at Pikes Peak on highway 62. W. B. Sanders, Henryetta, Okla., Rt. 1, Box 82.

Equipment Wanted

WANT several 8,000 gallon or smaller class 2 or 3 tankcars. Will pay cash. Address Box H-490, The Oil and Gas Journal, Tulsa, Oklahoma.

Ranches and Farm Lands

160 ACRES unimproved farm land $4 per acre. 1,532 acres ranch proposition, plenty of grass and water $4 per acre. 483 acres, 455 in cultivation, heavy chocolate loam, very productive, good improvements $40 per acre. Luther Calahan, Idabel, Oklahoma.

Leases—Production

½, ¼, or ⅛ int. 1000 a. and well to be drilled 1800' SW Ind. Perfect geo. apr. loc. close to prod. F. M. Pierson, Box 748, Terre Haute, Indiana.

80 A. ¼ mi. from 3,000 ft. test location, Sec. 34, T27, R2w, Kay Co., Okla. WHOLESALE, $1,000. Others, same block, $5 & $8 A., reliable operator, contractors. Box 687, Tonkawa, Okla., or 1101, 148 E. 48th St., New York City.

OIL and gas lease 9,000 acres Webb County, Texas. Eight miles north of Mid-Continent. Now drilling. Fifty cents bonus, twenty-five cents rentals. New leases. F. P. LANDRUM, Laredo, Texas.

FOR SALE oil and gas leases in Kentucky shallow oil field. Leases furnished for drilling contracts. W. P. Harley, Bowling Green, Kentucky.

Leases-Royalties-Oil properties East Texas, North La., and Southwest Arkansas. Also Parkersburg rig for sale. W. B. Worthen, Atlanta, Texas.

New southwest Texas oil leases in small tracts for brokers and dealers. H. H. White, Box 674, San Antonio, Texas.

Leases—Production

LANDS Leases, Royalties, anywhere, bought, sold. Lands, $2 acre, up. Leases 25c acre, up. Advise needs. American Investment Co., Houston, Texas.

SHELBY County at last has a producing well. Several tests now going down. This County has been worked out and approved by best geologists. Have 1,000 acres on structure for drilling contract. Small bonus. C. A. Parker, Box 451, Center, Texas.

BUY—SELL
Proven Leases in Louisiana-Arkansas
WILLIAM MONROE LAYTON
40 Wall St., Suite 1437, New York City.
323 Commercial National Bank Bldg., Shreveport, La.

Announcement

We have added a special lease man to our staff to cover hot spots in Texas, and we can now offer leases at right prices in Shelby, Panola, and other active counties. Also write for maps and data on interests in our active drilling wells.

W. J. DOBBS

632-3 Wilson Bldg., Dallas, Texas

FOR SALE
117-acre proven lease. 5 oil wells. Other sure locations. Shallow sand. Owensboro district, Western Ky. 3-mile pipe line and loading rack on railroad. Joel Bailey, 309 Mercantile Bldg., Evansville, Indiana.

NEW production in Arkansas. Nevada & Hempstead most active counties. Leases & Royalties close in. W. A. Feild, 321 W. 16th St., Little Rock, Arkansas.

SHALLOW oil. 360 acres. 6 wells. Gravity 31. Flush 12 to 28. Depth 450 ft. 7 tanks. Pipeline market. Many sure locations to drill. Also Shallow Gas. 525 acres. 15 wells. Depth 400 ft. Now returns $500 monthly. Unlimited market at 8 cents. Many more practically sure locations. For shallow properties always write H. B. Buddenborg, Osawatomie, Kansas.

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50—Practically new 80,000-bbl. steel roof tanks, latest type.

125—55,000-bbl. storage tanks at great saving. Prices quoted on request for tanks standing, cut down, or reerected on your grade. Have all other sizes available. All tanks strictly guaranteed.

All kinds refinery equipment, valves, fittings, machinery, pumps and pump repair parts.

Wire—Phone—Write—W. C. Berry

SONKEN-GALAMBA CORPORATION

64 North Second St. Kansas City, Kansas.

Leases—Production

IN OR around Pawnee County and the central mid-west of Kansas. Single leases or drilling acreage. Rental 50c to $1 per acre. Advise your needs. Address Box H-501, The Oil and Gas Journal, Tulsa, Oklahoma.

NEW MEXICO—My weekly scout report furnishes complete and reliable information on New Mexico developments. Send for copy. W. S. Patterson, Santa Fe, New Mexico.

WANTED — Drilling anywhere in Eastern Kansas or Oklahoma. Forty years experience. Will take interests for partial pay. Let me figure your job. New equipment. H. H. Sherman, 824 North St., Iola, Kansas.

HEMPSTEAD COUNTY, ARKANSAS
I am the owner of several thousand acres of commercial oil and gas leases in Hempstead County. Four wells now drilling, six additional wells to start immediately. Would like to contact reliable salesmen and brokers on extremely liberal terms. V. W. Foster, Hope, Arkansas.

NEW MEXICO LEASES on the Vegas Dome at Las Vegas, N. M. A deep test on a fully geologized structure. It's a real well testing for the big deep production. It offers a real opportunity to the lease buyer. Prices on structural acreage are reasonable. Now is the time to connect. Write or wire,
S. W. Pressey, Pueblo, Colorado.

CORE DRILLING
Any nature — Anywhere
Latest equipment
Will take interest deal with reliable Independent Operator.
PAUL R. KING
Box 341, Hutchinson, Kans.

FOR lease 110,000 acres of untested land in center of world's largest timbered plateau. All in Tennessee coal basin. Both oil and gas being produced here now. See or address G. E. Harrison, Crossville, Tenn.

Shallow Oil-Gas eastern Kansas 700 to 900 feet; six producing zones; proven area. Will furnish lease and drill well, $1,500. Full particulars to brokers, others. Mr. Budd, Osawatomie, Kansas.

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CIVIL ENGINEER, surveyor, over nine years with an oil company in South America, seeks similar position. Mapping, topographical surveys in connection with civil engineering works; drainage, flood control, roads, railroads. Also experience on reinforced concrete work. Address Box H-454, The Oil and Gas Journal, 415 Lexington Ave., New York City.

TAX SPECIALIST. Graduate engineering, accounting and law, fifteen years experience oil taxation and valuation, government, public and private practice. Available as head or assistant, tax department of oil company. Address Box H-472, The Oil and Gas Journal, Tulsa, Oklahoma.

First class draftsman desires position. Steel, concrete, refinery and general engineering experience. Address Box H-474, The Oil and Gas Journal, Tulsa, Okla.

Connection with concern desiring to contact oil refining industry for sale of equipment or processes. Have wide acquaintances and excellent contacts among refiners in United States and Canada. Have many years experience in selling this trade. Address Box H-473, The Oil and Gas Journal, Tulsa, Oklahoma.

14 years' experience manufacturing and repair shops in accounting, selling and management. University education. Age 38. Prefer Oklahoma, go anywhere. A-1 reference. Address Box H-480, The Oil and Gas Journal, Tulsa, Oklahoma.

Accountant-Bookkeeper, 15 years oil company experience. Know material, purchasing, leasing, lease record. A-1 reference. Address Box H-491, The Oil and Gas Journal, Tulsa, Oklahoma.

E. E. experienced in transmission, distribution design, estimates, motor rewinding, transformer rebuilding and load checks, maintenance and electrical oil well pumping experience, details upon request. Address Box H-502, The Oil and Gas Journal, Tulsa, Oklahoma.

Help Wanted

HELP WANTED — High class young salesman experienced steel tanks. Also vacancy Sales Engineer capable designing estimating steel plate work. College graduates preferred. Must be aggressive. Good address. Send full experience, references and salary desired first letter. Address Box H-492, The Oil and Gas Journal, Tulsa, Oklahoma.

Oil Industry Printing

OIL FIELD LEGAL BLANKS
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CAPITAL SEEKERS—Put your project before 260 key-men. Cost trifling. Details free. Amster Leonard, Fox Theatre Bldg., Detroit, Mich.

Incorporations

DELAWARE CHARTERS: Complete incorporating and organizing service $35. Submitted forms, Chas. G. Guyer, Inc., Wilmington, Delaware.

CHARTERS — Delaware best, quickest, cheapest, most liberal. Free forms. Colonial Charter Co., Wilmington, Del.

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1 Inch	*52*	*times*	*3.50 per inch*

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4 Lines	*1.40*	*2.40*	*3.40*	*4.40*	*8 Lines*	*2.80*	*4.80*	*6.80*	*8.80*
5 Lines	*1.75*	*3.00*	*4.25*	*5.50*	*9 Lines*	*3.15*	*5.40*	*7.65*	*9.90*
6 Lines	*2.10*	*3.60*	*5.10*	*6.60*	*10 Lines*	*3.50*	*6.00*	*8.50*	*11.00*

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL

Tulsa, Oklahoma

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Oil Man's Calendar

20-21—Houston, Tex., Society of Petroleum Geophysicists mid-year meeting.

November-December

30-Dec. 1—Oklahoma City, Okla., Independent Petroleum Association, Biltmore, annual meeting.

December

1—Oklahoma City, Okla., Interstate Oil Compact Commission, State Capitol, 10 a.m.

4—Houston, Tex., annual meeting, Texas division, Mid-Continent Oil and Gas Association.

5-13—Detroit, Mich., First International Consumers Petroleum Exposition.

6-11—New York, National Exposition of Chemical Industries, Grand Central Palace.

15—Tulsa, annual meeting directors, Mid-Continent Oil and Gas Association.

February, 1937

8-10—Louisville, Ky., Kentucky Petroleum Marketers Association, Brown Hotel.

23-25—Milwaukee, Annual Convention, Wisconsin Petroleum Association.

March

16-18—Los Angeles, Calif., A.A.P.G. annual meeting.

April

15-16—Cleveland, Ohio, 34th semiannual meeting National Petroleum Association, Cleveland Hotel.

November

3—Shreveport, La., regional technical meeting, W.P.R.A.

5—Los Angeles, Calif., California Natural Gas Association, fall meeting.

5—Shreveport, La., annual meeting Louisiana-Arkansas division, Mid-Continent Oil and Gas Association.

4-5—Indianapolis, Ind., Indiana Independent Petroleum Association, fall meeting.

5-6—Los Angeles, Calif., A.A.P.G., Pacific section, annual meeting.

9-12—Chicago, American Petroleum Institute, 17th annual meeting, Stevens Hotel.

20—Tulsa, annual meeting, Kansas-Oklahoma division, Mid-Continent Oil and Gas Association.